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Greater Abundance: Energy Production, Environmental Protection, and the Politics of Deregulation in the United States after the OAPEC Embargo

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An abstract of

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Abstract

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Greater Abundance explores the intersection of energy production and environmental regulation in the United States after the OAPEC embargo in 1973. The years from 1969 to 1973 saw the passage of a number of laws meant to protect the environment from human destruction, and they enjoyed broad public popularity at first. However, the oil crisis of 1973, which caused lines and fistfights at gasoline stations, refocused Americans' attention on economic issues and alerted Americans to the dangers of relying on imported oil. As a drive to increase domestic production of energy gained momentum, it soon appeared that the new environmental regulations were inhibiting this initiative. Furthermore, other economic regulations such as price controls on oil appeared to be hindering the drive toward energy security, and they too drew criticism. A backlash against environmental and economic regulations helped inaugurate a bipartisan era of market-based thinking in American politics and discredited the idea that the federal government had a constructive role to play in addressing energy issues. This study connects political, labor, and environmental history to contribute to a growing body of literature on the decline of the New Deal and the rise of pro-market thinking in American politics.

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All remaining errors in the manuscript are my own.

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Introduction: A Joke Told Too Many Times

On a June 16, 2010 episode of *The Daily Show*, host Jon Stewart played a clip of President Barack Obama proclaiming the need for America to pursue a bold new plan to reduce dependence on foreign oil. Stewart followed the clip with scenes of all of Obama's predecessors back to Richard Nixon making similar sweeping statements about the need to make big changes in America's energy economy. The joke was clear: Decades of doomsday warnings about US dependence on oil from unstable parts of the world had yielded no practical outcomes. Stewart's segment was framed within the context of a recent event that pointed to one possible reason for this frustrating continuity in presidential rhetoric – namely, the blowout on the Deepwater Horizon oil rig in in the Gulf of Mexico, which, in the act of attempting to increase domestic production of oil, eventually released nearly five million barrels of oil into the Gulf. Subsequent reports indicated that faulty equipment and inadequate testing had raised the possibility that danger might occur. Public protest in the Gulf region and across the nation decried the apparent recklessness of the BP oil company, which had played a large part in the blowout and subsequent poisoning of the Gulf.[1]

As the Deepwater Horizon calamity indicated, the two goals of producing more energy and protecting the environment, both popular public policy goals on their own, can come into stark, and sometimes disastrous, conflict. Politicians attempting to address this tension must pay close attention. When energy supplies get tight, public concern for the environment can diminish, but when environmental catastrophe strikes, consumers often proclaim the need for increased protection. The hierarchy of these two priorities in

[1] On the Deepwater Horizon disaster and its environmental consequences, see Antonia Juhasz, *Black Tide: The Devastating Impact of the Gulf Oil Spill* (Hoboken: John Wiley & Sons, Inc., 2011).

public opinion has not always been clear; often it has seemed that the more pressing of the two receives higher priority at any given moment.

The Deepwater Horizon explosion and oil spill was hardly the first time that the priorities of energy policy and environmental protection conflicted. This dissertation is an exploration of a major turning point in the history of this tension. The story begins with Richard Nixon. When the United States supported Israel in the Yom Kippur War against Egypt in October 1973, OAPEC (the Organization of Arab Petroleum Exporting Countries), a subset of OPEC (the Organization of Petroleum Exporting Countries), began steady cutbacks in oil exports to the US as punishment.[2] Decreasing supply, combined with domestic price controls which kept the price of domestic oil artificially low, led to shortages and lines of angry motorists waiting hours for the fuel needed to complete their daily routines. For most Americans, this was the first sign of the vulnerability of the nation's energy supply. It was also a key moment in the history of American consumption, American politics, and American culture.[3]

Nixon promised a bold response, yet the White House plan was diffuse. The oil crisis occurred just as Nixon was dealing with emerging revelations that would eventually become known as the Watergate cover-up, and his White House was too distracted by the leaks and eventual constitutional showdown to mount an effective response. Though Nixon did announce an initiative called Project Independence to secure the nation's energy future, few of its components received serious legislative consideration. Nixon's successor Gerald Ford inherited the proposal. Ford pushed for and signed the Energy

[2] Some of the members of OPEC, including Venezuela and Iran, actually increased production during the embargo, but it was not enough to offset the decline in OAPEC oil.
[3] See Natasha Zaretsky, *No Direction Home: The American Family and the Fear of National Decline, 1968-1980* (Chapel Hill: University of North Carolina Press, 1997), 79-80.

Policy and Conservation Act in December 1975, which created the Strategic Petroleum Reserve and established conservation standards for appliances and automobiles, but this initiative fell far short of the goal of achieving "energy independence."

Jimmy Carter, who believed that the US was being both immoral and foolish by consuming too much energy and putting its security at risk, took the effort to create a national energy policy to a new level. Carter created a federal Energy Department for the purpose of centralizing the nation's energy policy. He mounted an extensive public relations campaign to try to convince Americans to use less energy in order to decrease the need for foreign sources. Many Americans, disillusioned by the Watergate cover-up and the controversial pardon of Nixon, embraced the Washington outsider's claims about the need for a new way forward. For a time it appeared that Carter might succeed in establishing a coherent national energy policy, thereby removing the threat of future 1973-style crises.

Yet by the end of Carter's term, his presidency was in shambles. In 1979, another oil price spike slowed commerce, and Carter seemed powerless to solve it. Though Carter proposed a few ideas to mitigate at least some of the economic suffering, it seemed that the nation had stopped listening. The Department of Energy spent the bulk of its time and money maintaining the nation's nuclear weapons stockpiles, not implementing a centralized national energy policy. Former California governor Ronald Reagan, who until recently had seemed like a right-wing extremist unfit for national office, defeated Carter in a landslide in 1980 to take back the White House for the GOP.[4] Reagan advocated much *less* government involvement in the energy sector. The private sector needed to

[4] On Reagan's perceived extremism see, for example, Matthew Dallek, *The Right Moment: Ronald Reagan's First Victory and the Decisive Turn in American Politics* (New York: Oxford University Press, 2004), 39.

take free rein of the nation's energy future, he declared. Furthermore, candidate Reagan expressed skepticism about the environmental regulations that had enjoyed broad bipartisan support during the environmentalist wave a few years before. Something had happened in the intervening years to transform American political thinking about the relationships among energy, the environment, government, and business. Just what that was is the focus of this dissertation.

The Carter presidency was a time of dramatic reconfiguration of thought about the relationship between energy and the environment. Energy is a historical concept that involves numerous places, spaces, and power interests. The processes of production and consumption involve corporations, small businesses, laborers, consumers, environmentalists, and other interest groups. Policies also affect the landscapes from which energy is extracted and upon which it is used. Carter's energy policies affected all of these diverse components of energy systems in unexpected ways, as the policies had wide-ranging consequences beyond what he or his advisers could predict or manage. They intersected with a number of other public policy issues of the late 1970s, including the deregulation of American business, the increasing popularity of market-based thinking in economic and political discourse, the uncertain future of American organized labor, and the emergence of the American Sunbelt. The story of energy in the late 1970s both affected, and was affected by, these other major narratives about America in the 1970s. The end result of the changes in these complex relationships was a more skeptical and ambivalent attitude toward both environmental protection and government intervention into the economy to secure energy supplies.

This dissertation begins by revising our understanding of Jimmy Carter's political problems in the field of energy policy by broadening the scope of analysis. The current consensus about Carter and energy focuses on the 1977 bill creating the Department of Energy, zeroing in on Carter's troubles with Congress. In these accounts, an arrogant and tone-deaf Carter conflicts with an assertive and independent legislature. William Chafe, in a survey of the post-World War II US, claims for example that "instead of going to Congress, enlisting the expertise and ideas of relevant committee chairs, and drafting bills that reflected their views, Carter created an energy task force made up of *his* experts." Carter's energy bill that "reflected the insights of wise men whom he, as steward of the country, had mobilized," Chafe writes sarcastically, and attributes Carter's political failures to Congress's determination to be neither strong-armed nor condescended to.[5] Somewhat more charitably, Garland A. Haas portrays Carter as a tragic figure who faced circumstances and opponents beyond his control, but he still locates the roots of his energy policy problems in his relationship with the legislature. "[I]t is hard to imagine how any president facing the same issues and two Congresses as intractable as the Ninety-fifth and Ninety-sixth," says Haas, "could have succeeded."[6]

This is an unconvincing way to account for Carter's troubles in formulating energy policy. Many historians have indeed made the opposite argument about Lyndon

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[5] William H. Chafe, *The Rise and Fall of the American Century: The United States from 1890-2009* (New York: Oxford University Press, 2009), 235. See also Burton I. Kaufman, *The Presidency of James Earl Carter, Jr.* (Lawrence: University Press of Kansas, 1993), 1-3, for a similar argument about Carter's ill-fated bypassing of Congress based on an arrogant notion of himself as a "public trustee" who knew better than the legislature. Carter's legislative troubles likewise frame John C. Barrow, "An Age of Limits: Jimmy Carter and the Quest for a National Energy Policy," in Gary M. Fink and Hugh Davis Graham, eds., *The Carter Presidency: Policy Choices in the Post-New Deal Era* (Lawrence: University Press of Kansas, 1998), 158-78.

[6] Garland A. Haas, *Jimmy Carter and the Politics of Frustration* (Jefferson, NC: McFarland & Company, Inc., 1992), 2. Haas makes a similar argument as Chafe about the problems created by the secretive nature of the energy bill's creation on 63-71.

Johnson, attributing LBJ's domestic political successes to his refusal to leave policy in the hands of a fractious and disagreeable Congress. Though LBJ may have simply been better at glad-handing, arm-twisting, and applying political pressure to get legislators to do what he wanted, Carter's comparatively less savvy capabilities still do not fully explain his challenges in governing. As John Dumbrell has pointed out, Carter's ability to get major government reorganization legislation creating the Department of Energy through Congress was a significant accomplishment in itself.[7] The striking decline in Carter's popularity and public image cannot be located in these congressional antagonisms alone.

Such arguments ignore the broader political and economic context, which created challenges that were just as significant as those involved in working through the lawmaking process. Every particular source of energy involved a number of interest groups, each of which had a stake in preserving its place in the broader energy economy. Carter's initiatives affected each of these groups, which often expressed contradictory and irreconcilable positions. Carter's inability to align these conflicting interests provoked much opposition and protest on all sides. His problems were deeply rooted in the vast complexities of the American energy economy, especially the complicated local politics involved at myriad sites of energy production across the country.

As a close analysis of these interest groups, this dissertation also portrays energy as a historical concept rooted in a particular time and place. Scholars have examined the history of energy from the vantage point of the highest levels of government, detailing the interactions between policymakers and businesses to secure reliable supplies of oil,

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[7] John Dumbrell, *The Carter Presidency: A Re-evaluation* (New York: Manchester University Press, 1993), 44-45.

formulate a workable nuclear policy, and mobilize hydroelectricity as a tool of regional planning and development.[8] These approaches have often paid little or no attention to how the constant daily processes of producing energy affected the politics and identity of localities, or how consumer expectations of cheap and reliable energy shaped policymaking and policymakers' rhetorical strategies. While some more recent works have more thoroughly examined how the installation of nuclear plants shaped local politics and landscapes, they have not gone far enough to investigate how energy can be broadly constitutive of local and regional identity.[9] Regions that contained coal mines, nuclear plants, or hydroelectric dams – and particularly a combination of these – saw their local politics and economics revolve around energy issues, especially after the OAPEC embargo.[10] National policies pursuing energy security affected the daily lives of those who resided and worked in these areas of intensive energy production.

This is a study, ultimately, of national politics and local impacts. The first two chapters analyze changes in national thinking about energy issues in the 1970s. The next

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[8] On national oil policy see, for example, David S. Painter, *Oil and the American Century: The Political Economy of U.S. Foreign Oil Policy, 1941-1954* (Baltimore: The Johns Hopkins University Press, 1986); Ethan B. Kapstein, *The Insecure Alliance: Energy Crises and Western Politics Since 1945* (New York: Oxford University Press, 1990); Ahmed Mahdi, *Energy and US Foreign Policy: The Quest for Resource Security after the Cold War* (New York: I.B. Tauris & Co Ltd, 2012). On nuclear power see, for example, Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York: Cambridge University Press, 1991); Joseph A. Camilleri, *The State and Nuclear Power: Conflict and Control in the Western World* (Seattle: University of Washington Press, 1984). On hydroelectricity see, for example, Jessica B. Teisch, *Engineering Nature: Water, Development, & the Global Spread of American Environmental Expertise* (Chapel Hill: University of North Carolina Press, 2011); Sarah T. Phillips, *This Land, This Nation: Conservation, Rural America, and the New Deal* (New York: Cambridge University Press, 2007).

[9] On local nuclear politics see, for example, Kate Brown, *Plutopia: Nuclear Families, Atomic Cities, and the Great Soviet and American Nuclear Disasters* (New York: Oxford University Press, 2013); John Wills, *Conservation Fallout: Nuclear Protest at Diablo Canyon* (Reno and Las Vegas: University of Nevada Press, 2006); Henry F. Bedford, *Seabrook Station: Citizen Politics and Nuclear Power* (Amherst: University of Massachusetts Press, 1990).

[10] Some other recent works examining the local impact of energy production include Robert Lifset, *Power on the Hudson: Storm King Mountain and the Emergence of Modern American Environmentalism* (Pittsburgh: University of Pittsburgh Press, 2014); Christopher F. Jones, *Routes of Power: Energy and Modern America* (Cambridge: Harvard University Press, 2014); Andrew Needham, *Power Lines: Phoenix and the Making of the Modern Southwest* (Princeton: Princeton University Pres, 2014).

four chapters use events that occurred in East Tennessee and the broader Appalachian region as examples to illustrate the interrelationships among policymakers, interest groups, and local identity as national policies played out on a local level. East Tennessee is home to the quasi-public Tennessee Valley Authority (TVA), the Oak Ridge National Laboratory, and the nationally controversial Tellico Dam. It also lies adjacent to major coal-producing regions of West Virginia and Kentucky where the United Mine Workers of America (UMWA) union was strong. The relationship between East Tennessee and the federal government in the 1970s was especially reciprocal: East Tennessee played a major role in Jimmy Carter's energy agenda, and congressional representatives from the area emphasized East Tennessee's energy identity to gain national attention. Two Tennessee senators, Howard Baker and Bill Brock, ascended to powerful positions – Baker to the post of Senate Majority Leader, and Brock to the head of the Republican National Committee – that allowed them to shape policy and political rhetoric surrounding energy. The multiple interests within and outside the region competed for the benefits that could be derived from harvesting and mobilizing the region's energy resources, and Carter's inability to reconcile the goals of these clashing entities helped create the perception that his energy agenda had failed. Aligning all of these conflicting interests was impossible, yet Carter's failure to do so damaged not only his public image but also the very idea that government could play a constructive role in resolving the nation's energy challenges.

These failures were key to the surprising emergence of deregulatory, anti-government politics at the end of the 1970s. At the beginning of the decade, the liberal regulatory state was at high tide in the United States. On the heels of Johnson's Great

Society, Nixon presided over the creation of the Environmental Protection Agency and the Occupational Safety and Health Administration, along with the passage of the Clean Air Act, Clean Water Act, and Endangered Species Act. These laws invested power not just in centralized bureaucracies but also in citizen groups and localities that could bring their concerns before the judicial system. They therefore broadened the reach and power of government regulation of the economy. Furthermore, starting with the crippling inflation of the early 1970s and increasing with the oil embargo, Nixon instituted a schedule of price controls on wages, raw materials, and consumer goods throughout the American economy. Adding these diverse measures to the existing regulatory structure of the Progressive Era and New Deal brought the regulation of private business in the US to an all-time high.[11]

The 1973 oil crisis by itself was not enough to overturn this paradigm. The crisis, as many historians have noted, did indeed represent a significant blow to many ideas taken as self-evident since the end of World War II, including the reliability and security of key resources. Yet in the wake of the embargo and oil crisis, the idea that a deregulatory, private-sector approach would emerge predominant was far from obvious. As Meg Jacobs has noted, government had addressed and in many cases solved all major issues of the twentieth century thus far, including war, depression, civil rights, and labor unrest. Many people assumed it could do the same with the energy crisis.[12] Indeed, Nixon's immediate response to energy turmoil in the early 1970s took the form of

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[11] See Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), 480-81.
[12] Meg Jacobs, "The Conservative Struggle and the Energy Crisis," in Bruce J. Schulman and Julian E. Zelizer, eds., *Rightward Bound: Making America Conservative in the 1970s* (Cambridge: Oxford University Press, 2008), 193-94.

complex, mandatory rationing schemes and price controls on domestically-produced crude oil.

It appeared that government was primed to step in to fix this problem too, and, for a time, it did. The price controls on oil continued – despite some executive opposition – through the Ford years and most of the Carter administration. Though Ford made a few forays into government subsidies for domestic energy production and conservation incentives, Carter took these ideas to a new level. Carter created a Department of Energy to encourage, incentivize, and even compel American consumers to use less energy in their daily lives. He also gave regular speeches emphasizing sacrifice and a reduction in standards of living for the sake of preventing another energy crisis from ever happening again.[13]

Carter told the nation that shared sacrifice, combined with a significant mobilization of state action, would prevent disasters like 1973. Though living with lower standards was inconvenient, he said, it was ultimately necessary for long-term sustainability. Yet only a few years later, the Iranian revolution and hostage crisis brought back the intense consumer pain suffered during the first oil crisis. In the minds of many casual observers, it appeared that Carter's agenda had failed, and the political space was open for an alternative, which the anti-regulatory right wing of the Republican Party provided. Ronald Reagan and the GOP Right rejected the idea that energy security required either government action or consumer sacrifice, and argued that these measures were in fact impeding the nation's ability to reduce its dependence on foreign oil. They

[13] For a summary of Carter's energy program see Russell D. Motter, "Seeking Limits: The Passage of the National Energy Act as a Microcosm of the Carter Presidency," in Herbert D. Rosenbaum and Alexej Ugrinsky, eds., *The Presidency and Domestic Policies of Jimmy Carter* (Westport, CT: Greenwood Press, 1994), 571-93.

claimed that taking price controls off oil and getting the government out of the business of managing energy resources would allow the mechanisms of the market to choose the best path forward. Allowing energy to be priced at what the market decided it cost would incentivize producers to increase production in a way that could not happen with controlled prices, and market primacy would ensure that consumer dollars naturally flowed to the energy sources that were produced most cheaply and efficiently. Americans did not need to resign themselves to a future of reduced expectations, Reagan said, because these policies would generate an era of abundance. That Carter initiated price decontrol, and that Reagan merely spoke more forcefully about its benefits and sped up the decontrol schedule, were facts rarely mentioned by Carter's political foes. Some basic deregulatory ideas indeed had widespread consensus and seemed to be common-sense measures when paired with a broader strategy involving conservation, which is the agenda Carter pursued. Under Reagan, however, deregulation became not one piece of the puzzle, but rather a blunt instrument in a broader ideological attack on big government.

Though Reagan spoke of deregulating energy and allowing the private sector to pursue the alternatives that seemed most promising, there was another dimension to the deregulatory politics of these years, one that had to do with the aforementioned slew of environmental legislation passed under Nixon. As Meg Jacobs has written elsewhere, "the expansion of regulation on business between 1970 and 1976, when Republicans controlled the White House, was as great, if not greater, than what had occurred during previous periods like the Progressive Era or New Deal." The conservative appeal to get "government off our backs," which had been part and parcel of GOP rhetoric for decades,

gained traction only in this this world of growing regulation.[14] Yet left out from Jacobs' analysis is exactly *how* conservatives proved successful in depicting regulation as an insidious force prone to overreach and abuse. The search for a cure for inflation in the 1970s helped build support for deregulation in the circles of academic economics, with economists writing about the virtue of marginal-cost pricing to allow the most efficient firm to triumph in the marketplace, and some policymakers pursued this agenda in the legislature.[15] But the circulation of ideas in academia and in government does not explain why the idea of regulation came to have such a negative connotation in everyday American discourse.

Part of the answer has to do with the conflict between environmental quality and energy production. As Patrick Allitt has pointed out, environmental protection is something that societies must choose to "buy" – in other words, choosing to forgo economic development and other possible priorities for the sake of the environment. Societies, especially the US, generally tend to do so only when other basic needs have been met and a decent standard of living has been achieved.[16] The environmental legislation of the early 1970s triumphed in a generally healthy macroeconomic climate, at least in terms of unemployment. When the oil embargo created a structural economic problem that imparted fear and uncertainty to American consumers, they became less likely to support environmental laws. When environmental statutes began preventing initiatives for increased energy security, many people began to reconsider the usefulness of these laws. Republicans began speaking of protecting the environment as a goal to be

[14] Jacobs, "The Conservative Struggle and the Energy Crisis," in *Rightward Bound*, 193-94.
[15] On the deregulation of various US economic sectors see Kenneth Button and Dennis Swann, eds., *The Age of Regulatory Reform* (Oxford: Clarendon Press, 1989).
[16] Patrick Allitt, *A Climate of Crisis: America in the Age of Environmentalism* (New York: Penguin, 2014).

pursued not by government mandate, but by making sure that businesses pursue a careful "balance" between industrial production and the quality of the surrounding environment. Though this rhetorical strategy had questionable intellectual coherence – what would have to be given up in order to maintain "balance" between energy and environment was often vague – the second oil crisis in 1979 guaranteed the waning of Carter's conservationist approach.

The visceral impact of energy crises, which hit American consumers squarely in their pocketbooks by increasing the cost of driving their cars and heating and cooling their homes, *does* explain the popularity of deregulation among Americans ill-equipped to understand complex economic concepts, and also among those who cared little for the financial health of large corporations and industries. The backlash against environmental regulation accelerated this anti-government trend and gave it ideological coherence. The energy crises of the 1970s helped usher in an era of bipartisan support for deregulatory, antigovernment politics.

Prior to this second crisis, Carter himself backed away from unqualified support for environmental regulation. For example, he signed amendments in 1978 that limited the power of the 1973 Endangered Species Act, and also proposed an Energy Mobilization Board authorized to override state and local regulations. Americans in the early 1970s had voiced support for the idea of protecting the environment, yet when applied to specific cases, environmental laws could yield outcomes that seemed to defy common sense. The public and policymakers alike demanded that they be scaled back. In this context, the very idea of the virtue of government action to maintain energy supply and protect the environmental came under intense scrutiny and skepticism. Reagan

accelerated and amplified the deregulatory agenda started under Carter, discarding the accompanying pleas for conservation and replacing them with promises of future abundance.

Like any major political shift, the weakening of environmentalism in the late 1970s was incomplete. Building on the achievements of the late 1960s and early 1970s, environmentalism did continue to enjoy some political successes during the Carter and Reagan years. The Clean Air Act and Clean Water Act remained especially popular in public opinion. These laws were credited with improving the quality of American air and water over the course of the 1970s, and many Americans appreciated how they helped to clean up the spaces where they lived and worked on a daily basis.[17] Indeed, a Reagan White House attempt to weaken the Clean Air Act in late 1981 failed in the face of opposition from the majority Democrats in Congress, who believed that supporting the law would help them perform well in the 1982 midterm elections.[18] Nevertheless, despite some sporadic victories, the examples in this dissertation demonstrate that the energy problems of the era also led to several major policy defeats for the environmentalist cause. The more abstract and difficult to understand an issue was – the effect of microscopic nuclear particles on human bodies, for example, or what aggregate energy use levels would be decades in the future – the more likely it was that environmentalism's influence on that particular issue would decline. The conventional wisdom favored erring on the side of having too much energy in the future rather than too little, with the environmental consequences remaining a subordinate concern.

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[17] Though some analysts at the time pointed to a stagnating economy in the late 1970s as the main driver of improved air and water quality, many Americans in both parties ascribed the improvements to the implementation of these environmental regulations and supported them strongly. See Eliot Marshall, "Cleaning up the Clean Air Act," *Science*, New Series 214:4527, 18 December 1981, 1328-1329.
[18] See *New York Times*, 3 November 1981.

This dissertation is organized into six chapters. The first two chapters offer alternative views of national energy policy after the OAPEC embargo. Chapter 1 discusses energy policy during the Richard Nixon and Gerald Ford presidencies. Nixon instituted price controls on oil and proposed Project Independence to accelerate domestic energy production. Ford pursued a number of ideas, including oil decontrol, government encouragement of conservation, and the creation of a cabinet-level Energy and Natural Resources Department, none of which made it through the legislative process. Ford too faced congressional troubles and was unable to pass substantial energy policy. The argument that Carter's own failures were due to congressional antagonism, when he was able to pass several weighty initiatives, therefore makes little sense. Chapter 2 looks at Carter's early energy efforts and offers an alternative explanation for his declining popularity. It argues that Carter's establishment of the Department of Energy and his exhortations for Americans to conserve energy embodied a promise that more responsible use of energy would lead to both lasting security and better protection of the environment. When the Iranian Revolution plunged the American energy economy back into chaos, environmentalism took a significant hit in popularity, and the political space opened for an alternative approach to energy, namely a deregulatory one.

The next two chapters turn to coal and nuclear energy, two potential supplements or alternatives to imported oil, and examine the political and economic complications associated with each of them. Chapter 3 discusses Carter's plan to increase production of domestic coal – especially coal mined in Appalachia – to replace foreign oil. Though the new environmental regulations of the early 1970s made burning more coal difficult, the 110-day United Mine Workers strike of 1977-78 was an even bigger challenge. Also,

shipping coal on railroads meant that coal interests were a factor in the debates over railroad deregulation in the late 1970s. Ultimately, the deregulation of railroads made shipping coal from the West easier, leading to decreased political power for the mine workers' union.

Chapter 4 follows the story of the Clinch River breeder reactor, an experimental nuclear project based on plutonium instead of uranium. Though the 1979 Three Mile Island disaster was the key event that led to the decline of commercial nuclear power in the US, the Clinch River story was another integral conflict over both the future of nuclear power and the image of the Carter administration. Carter attempted to end the project on grounds of both national security and cost effectiveness, but Tennessee's representatives in Congress found ways to keep the project funded, thus preserving local jobs. The Clinch River plant fit firmly into the nuclear identity of nearby Oak Ridge, a town created from nothing for the Manhattan Project, and Carter's repeated failed attempts to kill the project made him look politically impotent. The legislative battle over Clinch River was as much a blow to Carter's image as the one fought over the Department of Energy. The jobs and money tied to the project meant that it involved more than just a simple knee-jerk reaction by the Congress against Carter's perceived haughty moralizing.

The last two chapters involve the Tennessee Valley Authority, the New Deal-era, quasi-public regional utility. Chapter 5 examines the controversy over the Tellico Dam in Lenoir City, Tennessee, a massive project that was stopped when nearly complete due to the presence of a tiny fish protected under the Endangered Species Act. The public debate on the dam, and a similar situation in Maine involving the prospective Dickey Dam,

provoked a debate about environmental regulation that was nearly indistinguishable from that pertaining to the deregulation of American business in other economic sectors. The debates naturalized the Republican right's attack on the alleged irrationality of government regulation. It became a synecdoche of government failure, and trivialized the very real problems of how to balance energy and environmental priorities. Backlash against environmental regulation affected, and was affected by, the more general deregulatory trend in American economics in the late 1970s.

Chapter 6 discusses the TVA in this rapidly changing macroeconomic context. Carter attempted to use the TVA as a national incubator for experimental alternative energy technologies, which drew opposition from Valley residents who saw their electricity rates rise as a result. After abandoning the experimental conservationist mission, multiple attempts to then adapt the New Deal-era structure of the TVA to fit an era oriented to decentralization and the primacy of the "market" led to confusion within the agency about its mission and identity. Though Valley ratepayers turned against the perceived inefficiency of government, they were unwilling to give up the subsidized electricity rates that government made possible.

Chapter 1: “A major national objective”: Energy Policy under Nixon and Ford

The 1973 OAPEC embargo reoriented American attitudes about the security and sustainability of the nation’s energy economy. Economic growth and lasting prosperity, which since the end of World War II had seemed like perpetually viable goals, now seemed very much in doubt. The crisis compelled policymakers to search for new approaches to energy production. This chapter examines US energy policy in the months and years immediately following the embargo. Richard Nixon and Gerald Ford pioneered approaches that Jimmy Carter would later use. Nixon and Ford each proposed a bold government program to address energy. But Carter passed a plan and his two predecessors did not.

Nixon and Ford both addressed the nation’s energy problems while in office. Nixon instituted controls on the price of domestic crude oil to try to relieve some of the pressure on automobile drivers. But by keeping prices artificially low in a time of shortage, the controls made the problem worse by galvanizing consumer demand beyond what the market could provide. Nixon also announced Project Independence, an initiative to encourage conservation, create synthetic liquid fuels from coal and oil shale, and boost the use of nuclear power. This effort was curtailed by his forced exit from office. Gerald Ford took up the project after Nixon’s resignation and instituted a few of its ideas into law, but the measure hardly amounted to a national energy policy.

Ford pursued a number of other avenues toward energy security, many of which damaged his administration politically. After the end of the embargo relieved fears of disaster and consumption patterns began to return to normal, Ford tried to remove the oil controls that Nixon had put in place. He argued that continuing to keep prices artificially

low was discouraging investment in future exploration and production. After a fierce and protracted battle with Congress, though, the controls stayed in effect. Ford's administration also expended much effort to block divestiture bills, which would have forced the breakup of large oil companies. Ford's most prominent energy proposal, a $100 billion Energy Independence Authority that would have encouraged production of domestic alternative fuels, came under attack from many observers, including market-oriented economists within his own administration. An idea to restart an old Nixon proposal to create a cabinet-level Department of Energy and Natural Resources likewise met little success.

In an assessment of energy policy, a favorable account of the Ford administration credits him with starting "a vociferous national discussion" about energy.[1] But it is difficult to argue that Ford achieved much of lasting substance or impact, and the attention given to energy in the administration paled in comparison to other major issues. If simply speaking about the importance of an issue earns a favorable historical assessment, one could also make the same argument about Nixon based on his announcement of Project Independence. However, few historians would consider Nixon to be a leading figure in the history of energy policy. Ford's domestic agenda was dominated by the Nixon pardon, inflation, and unemployment, along with a few flashpoints in areas such as civil rights and urban policy. He also devoted much of his attention to ending American involvement in the protracted civil war in Vietnam. The only chief executive not elected to either the presidency or vice presidency, Ford struggled to legitimate his office and address the economic and foreign policy disasters

[1] See Yanek Mieczkowski, *Gerald Ford and the Challenges of the 1970s* (Lexington: University Press of Kentucky, 2005), 269.

plaguing the nation.[2] Though Ford proposed a number of energy ideas, energy policy was a relatively minor priority for the administration.

Jimmy Carter especially followed Ford's energy lead when proposing legislation. Carter is often cast as the president who first made energy a major public policy issue, but many of his energy achievements – including synthetic fuels legislation, a Cabinet department to deal with energy and natural resources policy, and the decontrol of crude oil prices – were pursued in various forms by his predecessor. Ford also emphasized the need for conservation, speaking of the need for Americans to monitor personal consumption and alter daily habits in much the same way that Carter would later do. But Carter was able to achieve policy successes where Ford failed. The difference between the two leaders was one of both passion and circumstance, but not of policy focus. Unlike Ford, Carter made creating a national energy policy a major focus of his administration and persisted in passing a national energy plan. Energy is a complex political issue involving myriad interest groups and stakeholders. Making substantive changes in America's energy economy required an expenditure of political capital that Carter, unlike Ford, was willing to give. Carter also declined to pursue some of Ford's more controversial proposals, namely oil decontrol, until much later in his term, when circumstances had changed.

When compared to Ford, Carter was much more able to make large structural alterations in the way the federal government itself handled energy matters. Historians

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[2] The Nixon pardon especially affected Ford's efficacy in office. Ford's approval rating dropped 23 percentage points in the week following the pardon, and in the 1974 midterm elections, Republicans lost 43 House seats and three in the Senate, increasing Democratic majorities in both chambers. According to historian George C. Herring, because of the controversial pardon, "An already rebellious Congress was further emboldened to take on Nixon's successor. The Ford presidency was crippled at the outset." See *From Colony to Superpower: U.S. Foreign Relations since 1776* (New York: Oxford University Press, 2008), 815.

and political scientists often blame Carter's energy policy problems on his problems with Congress as he enacted a national energy policy. But this line of argument makes little sense in light of the fact that Carter legislatively succeeded in many areas where Ford had failed. Carter's problems lay elsewhere, namely in his inability to account for and align the conflicting interests embedded within these legislative achievements. Carter's ability to make large-scale changes in energy policy drew attention and often anger from a number of constituencies who disapproved of the effects his policies ultimately had on them. In contrast, Ford, unable to complete any major shifts in energy policy, never had to deal with these consequences. Ford's energy agenda died in Congress, with the task of formulating a national energy policy falling instead to his successor.

Problems under the Radar

The first inklings of unease about America's energy economy appeared at the beginning of the 1970s. As American demand for oil had steadily increased through the 1960s, domestic production had concurrently been declining. By 1970 the trend meant that the nation could no longer produce enough domestic oil to sustain its current patterns of consumption. As oil prices slowly rose, national periodicals slowly began to examine the problem, but these gradual trends were virtually imperceptible to most consumers. The few political leaders who engaged the issue disagreed both on its cause and on the best mix of solutions to address it, yet without much concern among the general public, politicians did nothing.[3]

[3] I draw here on the analysis of historian David Nye, who identifies five distinct stages of energy crisis lasting through the first term of Ronald Reagan. This slowly rising demand of 1970-71 represents the first stage, and the OPEC price hikes and embargo of 1972-73 constitute the second. See *Consuming Power: A Social History of* American *Energies* (Cambridge: The MIT Press, 2001), 218.

Two years later, the problems on both the supply and demand sides began to come into clearer focus. In 1972, as a result of shortages and price hikes engineered by foreign oil producers, crude oil prices in the US began to increase much more noticeably. In June of that year, *Time* reported with alarm its discovery that the US demand for energy was doubling every fifteen years. The US was consuming fifteen million barrels of oil per day, the magazine noted, but domestic production was currently only ten million barrels per day. Estimates showed that it would rise to only eleven million per day based on current reserves, not nearly enough to meet rising demand. The idea that the nation's energy security would only worsen over time led to concern among government officials. Interior Secretary Rogers C.B. Morton warned in 1972 that the nation could need to import half of its oil by 1985, and Undersecretary of State John Irwin II was even more pessimistic, claiming that the critical point could be reached as early as 1980.[4]

A severe energy shortage in the winter of 1973 brought the first major attention by the public. By January 1973, the prospective crisis that had seemed like a fantasy was becoming more real. According to *Time* magazine, "in scattered sections of the nation there were cold schools, unfilled jet-aircraft tanks, empty propane containers and a hasty scramble among high state officials to arrange emergency delivery of precious fuels." The periodical doubted that the nation's energy problems would somehow sort themselves out, arguing that the basic problem of soaring demand for oil "must somehow be slowed" in order to stabilize the American energy economy.[5]

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[4] Nye, *Consuming Power*, 218; "Environment: Energy Crisis: Are We Running Out?" *Time*, 12 June 1972; *Washington Post*, 11 April 1972.
[5] "Energy: And Now, the Chillout," *Time*, 22 January 1973.

Crisis Breaks Out

On Yom Kippur in October 1973, during a disagreement over the fate of the Sinai Peninsula, Egypt struck Israel in a surprise attack. After a few days of fighting, a desperate Israel asked the United States for assistance. Secretary of State Henry Kissinger and Defense Secretary James Schlesinger agreed that aid should be given, but decided that any such support must be covert to avoid jeopardizing oil imports from Arab nations. US planes therefore would land at night, unload supplies for the Israeli military, and leave by daybreak. On October 14, though, due to crosswinds at an airfield in the Azores, the transports were delayed for a half day and did not land until daytime. The immense white star on each transport signifying its US affiliation was visible to all observers, most importantly Egypt and its allies.[6]

The Arab nations decided to use energy supply as a tool of punishment, instructing their respective oil ministers to raise the price of oil by 70 percent, which they did on October 16. The next day, the chief Iraqi delegate to the meeting proposed an even more radical idea, a total oil embargo against the US and other nations friendly to Israel. Though the other ministers did not assent to such an extreme move, they did agree to cut production by five percent each month until Israel was contained within the borders agreed to at the end of 1967's Six-Day War. The United States was subjected to the "most severe" cuts of the graduated embargo. Panic quickly followed.[7]

Near the end of 1973, the Nixon administration – with a mandate from Congress – organized the Federal Energy Agency (FEA), which was authorized to determine

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[6] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Simon and Schuster, 1991), 600-17.
[7] Ibid.

allocations of petroleum products across the country.[8] The FEA's allocation plans, which included emergency rationing, were meant to balance the wide-ranging interests of small refiners, large refiners, distributors, and consumers. But the managed shortage of oil alarmed American consumers who saw drastic disruptions to their regular habits. With the FEA's allocation plans in place, the most visible symbols of the embargo became the lines that appeared at gasoline pumps around the country. Not long after the embargo's onset, with oil rising steadily in price and the government rationing domestically-produced oil, retail gasoline prices climbed by 40 percent, leading to shortages and lines of angry motorists waiting hours for the fuel needed to complete their daily routines.[9] Oil companies made huge profits during the crisis, which enraged suffering American consumers, although many of their profits were made in the Eastern Hemisphere, which was virtually unaffected by the embargo.[10]

The crisis in foreign affairs transformed the slow decline of energy reliability earlier in the decade into an outright disaster. As prominent energy analyst Daniel Yergin noted in retrospect, "the shortfall struck at fundamental beliefs in the endless abundance of resources" for postwar Americans. The embargo and the broader problems it caused "were an abrupt break with America's past, and the experience would severely undermine" public confidence in the future.[11]

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[8] Richard H.K. Vietor, *Energy Policy in America since 1945: A Study of Business-Government Relations* (New York: Cambridge University Press, 1984), 244-45. The Federal Energy Agency's name was later changed slightly, to the Federal Energy Administration.

[9] Price controls were enacted on "old" oil, or oil pumped from areas that had already been discovered at the time, but controls were not put on newly-discovered oil. Old oil was withdrawn from the market, leading to price increases as new oil dominated domestic supply.

[10] See *Milwaukee Journal*, 23 January 1974.

[11] Yergin, *The Prize*, 600-17; Michael Egan, *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism* (Cambridge: The MIT Press, 2007), 150-51. On the oil crisis' demoralizing impact on American households forced to cut back on energy use, see Natasha Zaretsky, *No Direction*

To decrease US reliance on foreign oil, Nixon proposed Project Independence, a program to encourage conservation measures, increase reliance on nuclear energy, and encourage production of synthetic liquid fuels from coal and shale.[12] Also included was final approval of the Alaska oil pipeline, which had faced fierce environmentalist critiques, and the president proposed that Congress exempt power plants from a number of environmental regulations. Nixon's clear ambivalence for environmental regulation galvanized the coal industry to speak out against the Clean Air Act. Indeed, according to one historian of Nixon's environmental policies, the incentives for production in Project Independence dwarfed the encouragements for conservation, which were mainly limited to voluntary carpooling and thermostat-lowering ideas.[13]

While Nixon was taking these steps, Egyptian and Israeli officials worked to resolve the conflict between their nations. As initial progress proceeded on the Arab-Israeli dispute and tensions began to dissipate, producers began to look to longer-term consequences of the embargo, and they did not like what they saw. President Anwar Sadat of Egypt urged an end to the embargo, arguing that the United States would assist only minimally in the cause of Middle East peace while under its penalties. He also believed that, if allowed to go on for too long, it would eventually damage American relations with countries like Saudi Arabia and Kuwait, which would only hurt those nations in the long term. The Saudis in particular had never approved of the scale of the price increase, since it was not in their interest to perpetuate the cycles of recession and inflation that would be stimulated by further spikes in oil prices. Higher prices, they had

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Home: The American Family and the Fear of National Decline, 1968-1980 (Chapel Hill: University of North Carolina Press, 1997), 71-104.

[12] Vietor, *Energy Policy in America since 1945*, 244.

[13] J. Brooks Flippen, *Nixon and the Environment* (Albuquerque: University of New Mexico Press, 2000), 207-08.

concluded, would also spur conservation and the development of alternative energy sources, which would diminish the market for oil in the long term.[14] With the Saudis leading the way, the Arab nations relaxed the embargo in March 1974.

Some energy reformers took the embargo as an opportunity to stress the necessity of change. In May 1974, *Time* asked if the energy crisis could have been "a blessing in disguise" that could alert Americans to the current unsustainability of energy. It reported on a recent energy conference held in Williamsburg, Virginia, where prominent speakers argued that the embargo had "awakened Americans to long-festering energy troubles and started them thinking about solutions." Treasury Secretary William Simon told the conference that the US had to increase domestic supplies of energy while curbing the growth in demand. The conference attendees clearly hoped that the panic at the pump of 1973 would compel Americans to recognize the structural problems inherent in the nation's production and consumption of energy.[15]

Yet for many Americans, as the foreign affairs crisis began to subside, so did the anxiety of high energy prices and the fear of shortages. Senator Jennings Randolph (D-WV), chairman of the Senate's Public Works Committee, "had his doubts" that the embargo would yield a lasting effect on the American psyche. On a recent road trip, the Senator said, he had conducted an experiment to determine the percentage of drivers that were exceeding the national 55 mile-per-hour speed limit, which had been put in place during the crisis to reduce gasoline usage. He found that no fewer than 63 percent of all drivers were breaking the law. Americans' disregard for the speed limit was, for the

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[14] Yergin, *The Prize*, 630-38. Having to handle the Watergate scandal concurrently greatly weakened the Nixon administration's ability to deal with the crisis; see ibid, 609-19; Martin Melosi, *Coping with Abundance* (Philadelphia: Temple University Press, 1985), 285.
[15] "Conservation: Pondering the Tasks Ahead," *Time*, 27 May 1974; Nye, *Consuming Power*, 222-23.

senator, symptomatic of a more general disengagement from energy problems. Congress and the Nixon administration each remained "extremely reluctant" to impose mandatory conservation measures like gasoline rationing and taxes on energy-intensive machines, content instead to allow consumption patterns to return to pre-embargo levels.[16]

Ford tried to fold energy concerns into his broader economic strategy. His major domestic goal was to WIN, or Whip Inflation Now. With inflation running at about 12 percent annually and with unemployment at 5 percent, Ford made a pitch to Americans to stop wasting resources, fuel foremost among them. Given that oil was an essential input for both industrial production and transportation, Ford argued that more energy troubles would undoubtedly exacerbate inflation.[17] Ford attempted to persuade the country to voluntarily use less energy, imploring Americans to cut their driving by five percent fewer miles, which he claimed could save 250,000 barrels of foreign oil per day."[18]

Few Americans, though, heeded Ford's admonitions. They were busy enjoying the cheaper gasoline available after the embargo's end. Much of the public also became outraged a few months after the crisis when it learned that oil companies had profited enormously from it.[19] Because oil companies drilling in the Middle East split oil profits with their host governments, OAPEC's price increases brought higher profits to companies working in the region. These immense corporate profits reaped during the embargo allowed conservation-averse Americans to come up with an alternative narrative of the energy crisis, namely that oil companies had artificially created the problem in order to enrich themselves. In this version, corporate greed, not excessive consumption,

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[16] Ibid.
[17] Melosi, *Coping with Abundance*, 287.
[18] Douglas Brinkley, *Gerald R. Ford* (New York: Times Books, 2007), 77.
[19] Nye, *Consuming Power*, 231.

was to blame, and thus changes in personal consumption habits were not necessary. To make a difference in energy markets, Ford would have to concentrate on the production side, not the consumption side.

The Energy Independence Authority

Ford, inheriting much of Nixon's White House and Cabinet staff, took up the Project Independence proposal. His first task was to understand the nation's energy conditions and potential policy changes. A team working on the task produced the *Project Independence Report* in 1975, which indicated the necessity of a significant government role in increasing supply and decreasing demand. The plan advocated streamlined licensing of nuclear plants, federal incentives for synthetic fuels, subsidies for public transportation, mandatory fuel efficiency standards, and other sundry policy options. The State of the Union message for 1975, Ford's first after taking over for Nixon, listed these initiatives and declared his goal that the US become energy independent by 1985. Yet the government-centered slate of programs clashed with Ford's stated preference for allowing the private sector to take the lead in addressing energy problems. The contradiction created significant problems within the administration.[20]

Though Ford professed favor for conservation, it was less clear that he and his staff truly supported the concept in practice. Ford's inherited head of the FEA was John Sawhill, an ardent proponent of government conservation programs. His advocacy for conservation unnerved other administration members who feared possible encroachment on the prerogatives of the private sector. Soon after Ford took office, for example, in

[20] Vietor, *Energy Policy in America since 1945*, 315-18. Approval for the Alaska pipeline, part of Nixon's original Project Independence proposal, had passed Congress separately while Nixon was still in office.

August 1974 Sawhill's FEA came up with a contractor compliance program that it proposed to the president's domestic policy staff. Under the plan, Ford would issue an Executive Order directing the FEA to set energy conservation specifications for lighting, heating, and cooling, which all contractors doing business with the federal government would have to follow.[21]

The scope of the proposed order was far more expansive than it at first seemed, as it applied to *all* activities of a given contractor. In other words, if a contractor wanted to do any business at all with the federal government, even on a small project, it would have to meet the FEA's standards in its contracts with all other clients too. By the estimation of Glenn Schleede, a Domestic Council specialist on energy and natural resources, this meant that "virtually every major business in the country" would be affected by the order, which, Schleede argued, created "unfair federal leverage" over contractors' activities. Michael Duval, one of the primary coordinators for the Domestic Council, agreed, calling it an "absolutely horrible idea. Let's nip this one at the bud." Duval also argued against a possible alternative proposed by Schleede that the program be instituted but be made voluntary, scribbling in the margin of a memo from Schleede that doing so might prove "very dangerous," as it "would make it easy for Congress to mandate it."[22]

Ford's economic staff hated not only the conservation idea, but also Sawhill's proposed gasoline price hike. Sawhill advocated a twenty-cent increase in the federal gasoline tax, which Ford thought would unfairly put the burden of the energy problem on consumers. When Sawhill refused to reconsider, Ford fired him. Sawhill's replacement was Frank Zarb, a former Wall Street executive, assistant secretary of labor, and associate

[21] Memorandum from Glenn Schleede to Mike Duval, 31 August 1974, box 10, folder Energy, 1974: Conservation – General (2), Glenn Schleede Files (hereafter GSF), Gerald R. Ford Presidential Library.
[22] Ibid; Mike Duval to Glenn [Schleede], found in ibid.

head of the Office of Management and Budget. Zarb emerged – alongside Interior Secretary Rogers Morton and Treasury Secretary William Simon – as one of the primary coordinators for energy policy in the Ford administration.[23]

The most high-profile controversy within the administration concerning energy brought Ford's economic and energy policy staff into conflict with Vice President Nelson Rockefeller. The former New York governor, who according to the *Wall Street Journal* had "spent a lifetime enthusiastically promoting" extensive and comprehensive government programs, turned his sights to energy. Rockefeller had indeed pursued sweeping government programs as governor, turning the State University of New York system into the largest public system of higher education in the US and creating the State Urban Development Corporation to revitalize New York's cities. Rockefeller's idea to revolutionize energy financing was the federal Energy Independence Authority (EIA).[24] The EIA would be a $100 billion government corporation with a ten-year lifespan, composed of $25 billion in equity and $75 billion in debt to make and guarantee loans to a variety of projects, which the government planned to recoup through wise investment. A five-person board appointed by the president and confirmed by the Senate would oversee the distribution of the funds.[25]

The EIA's architects spoke optimistically of its potential. The EIA was badly needed, proponents said, because some technologies, especially solar power, conservation technology, and synthetic liquid fuels derived from fossilized carbon posed

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[23] John Robert Greene, *The Presidency of Gerald R. Ford* (Lawrence: University Press of Kansas, 1995), 70; James Cannon, *Gerald R. Ford: An Honorable Life* (Ann Arbor: University of Michigan Press, 2013), 289.
[24] *Wall Street Journal*, 30 September 1975.
[25] Memorandum from the Vice President and Frank Zarb to the President, "Corporation to Finance Energy Projects," 15 September 1975, box 6, folder Energy Independence Authority (2), Michael Raoul-Duval Files (hereafter MRDF), Gerald R. Ford Presidential Library.

considerable financial risk due to long development schedules and complex research and development processes. Federal guarantees were necessary to spur private investment in these technologies. Because of its limited ten-year lifespan, the EIA would help solve the nation's immediate problems without posing a lasting threat to the hegemony of private industry. It had no authority to own facilities, except for very limited emergency periods, related to energy production or distribution. It only had only the authority to make loans to other entities pursuing these goals. Proponents estimated optimistically that the EIA could help assure that the equivalent of ten to fifteen million barrels of imported oil in new domestic energy production would be achieved by 1985.[26]

Yet Ford's economists were baffled by the plan. Duval, speaking for a number of officials, expressed skepticism that the EIA would stimulate the needed investment in energy markets. Private businesses, he argued, were more than capable of making informed decisions about shrewd investments in energy projects. The proposed Authority "is simply a transfer of a very significant portion of the decision-making power" in energy investment decisions "from the private sector to the government." "To the extent [the EIA] doesn't stimulate additional investment," then "philosophically, it must honestly be described as socializing a major segment of the U.S. energy industry." Rather than supplement private-sector investments in energy projects, Duval feared, the EIA would instead crowd out private investment. If any potential energy project was, hypothetically, indeed too risky to attract private investment, Duval argued, the president and his executive agencies, like the Energy Research and Development Administration,

[26] See the summary of pro-EIA arguments in White House Press Release, "Fact Sheet: Energy Independence Authority," 10 October 1975, box 11, folder Energy Independence Authority, GSF.

were more than capable of making such a determination and dedicating appropriate funds. An independent five-member board was therefore unnecessary.[27]

Duval expressed other concerns to Alan Greenspan, chair of Ford's Council of Economic Advisers. Given that the five-member EIA board could make almost any financing decision it wanted, EIA had truly no "precedent in terms of vesting such totally unconstrained authority in a free-standing government entity." EIA would "exercise operating control" over a large segment of the private sector, but without the "normal constraints" of antitrust laws that served to promote competition. "This is an extraordinarily dangerous precedent," added Greenspan. As Duval had already stated to Cannon, the whole initiative seemed completely anathema to the Ford administration's stated principles of leaving economic decisions to the private sector with minimal government interference. "[T]here is no compelling reason for this abrupt shift."[28] As the *Wall Street Journal* pointed out, the EIA perhaps did have one precedent, namely the Depression-era Reconstruction Finance Corporation, which had provided loans to banks, railroads, and other businesses.[29]

Despite his economic advisers' vehement opposition, the president himself supported the plan, ostensibly folding it into the existing Project Independence ideas. The bill stayed alive in public debate, but Ford, as Cannon remembered, did not actually want the EIA to become law. He expressed support for the program merely as a favor to his vice president, who he had asked to formulate a plan to create jobs, knowing full well that

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[27] Memorandum from Mike Duval to Jim Cannon, "Energy Financing," 28 August 1975, ibid. As discussed in the next chapter, Ford's successor Jimmy Carter disagreed with this line of analysis, establishing a Synthetic Fuels Corporation in 1980 to incentivize production of liquid fuels from coal, oil shale, and other fossil fuel material.

[28] Ibid; Memorandum from Mike Duval to Alan Greenspan, "ERFCO," 29 August 1975, ibid. ERFCO, or the Energy Resources Finance Corporation, was the preliminary name for the EIA.

[29] *Wall Street Journal*, 30 September 1975.

the Democratic Congress would almost certainly reject such a sweeping plan. FEA administrator Zarb, who opposed the EIA and reportedly argued with Rockefeller about the proposal at the foot of the president's bed as Ford lay ill, publicly defended the proposal once Ford decided to support it.[30] In January of 1976, for example, a story in the *Chicago Tribune* cited Zarb defending the EIA as a means of achieving US energy independence.[31]

On October 10, Ford officially submitted EIA legislation to Congress for consideration. A few days later, Paul Myer, a staff member on Ford's Domestic Council, wrote to Rockefeller confidant Cannon in mid-October to warn that the House and Senate had referred the EIA authorization legislation to their respective banking committees, rather than any committee having to do with energy or natural resources. The Democratic chair of each committee had already opposed the bill, and few members on either committee had any experience with energy issues. Myer feared that these moves had been made to kill the bill by letting it die in obscurity, or worse, to hold hostile hearings to embarrass the administration.[32] Though the first option may have been exactly what Ford's economists wanted, Rockefeller's passion for the idea meant that it would not go away easily.[33]

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[30] Cannon, *Gerald R. Ford*, 368. The story of Zarb and Rockefeller arguing while Ford lay sick is recounted in Mieczkowski, *Gerald Ford and the Challenges of the 1970s*, 261.
[31] *Chicago Tribune*, 22 January 1976.
[32] Memorandum from Paul Myer to Jim Cannon, E.I.A., 14 October 1975, Box 13, Folder Energy Independence Authority, October 14-November 18, 1975, James Cannon Files (hereafter JCF), Gerald R. Ford Presidential Library.
[33] The analysis of one historian of the Ford presidency suggests why Ford publicly supported Rockefeller so vehemently while fully expecting that the EIA would never amount to anything. According to John Robert Greene, Ford was more interested in foreign policy and never intended to make any bold moves in the domestic arena. "For the most part," Greene claims, "Ford's domestic policy was less an articulated agenda and more an exercise in crisis management," designed to confront immediate problems but not to pursue any bold reforms. While serving as White House Chief of Staff, Donald Rumsfeld made sure that domestic policy stay on the periphery of the administration's focus. "The Domestic Council, then, was a minor player in the Ford administration." Ford thus seemed to feign support for the EIA to keep

The Administration (Rockefeller?) Redoubles Efforts

Vice President Rockefeller defended the project before the Senate's banking committee in April 1976. Rebutting charges that federal financing of energy projects was unnecessary because the private sector would provide capital for meritorious projects, Rockefeller invoked numerous examples of ideas that, for one reason or another, required federal financing. Coal gasification, a method of obtaining liquid fuel from coal, was one example of a promising new technology that also contained many uncertainties making recouping investments a risky proposition. According to Rockefeller, the cost of a single coal gasification plant would require a capital investment of up to $1 billion, which a potential builder would be hard-pressed to find from private sources. As the construction itself would take six to ten years, the economic and regulatory climate could have changed drastically in the interim. Other projects, such as railroad reconstruction to improve the shipment of coal, "are of such size and scope that financing from the private sector alone would not be adequate."[34]

Ninety-two nuclear power plants in the US, Rockefeller continued, had been either postponed or cancelled, primarily because electrical utilities could not raise the money needed to fund them. Though American energy demand had momentarily adjusted downward due to the impact of the embargo, he said, increased generating capacity might be needed years in the future. The inability to plan for increases in future demand, Rockefeller suggested, would be foolish indeed. Inability to get financing, he said, "is not

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Rockefeller content within the administration, knowing that the administration's systems of influence combined with certain congressional opposition would prevent the idea from achieving serious consideration. See *The Presidency of Gerald R. Ford*, 83-85.

[34] Statement of the Vice President before the Senate Committee on Banking, Housing, and Urban Affairs on S 2532, A Bill to Create the Energy Independence Authority, 12 April 1976, box 12, folder Energy, April-June 1976, JCF, 5, 7.

to suggest that these projects are destined to lose money," but only "point[ed] to the uncertainties" deterring private sector financing. "We are not in a position to wait until these uncertainties become certainties."[35] Zarb testified alongside the vice president, exhorting the EIA's potential benefits and echoing Rockefeller directly on several points.[36] Rockefeller supplemented his congressional testimony with a column in the *New York Times* touting the EIA's potential benefits and again rebutting common criticisms.[37]

Despite these efforts, months dragged on with no congressional action on the FEA. Even though most of Ford's staff had never expected it to pass, they did not seem to anticipate that it would remain a prominent news item for so long. Worrying that Ford was looking weak in light of Congress' continuing refusal to consider a proposal for which Ford had publicly expressed support, Zarb wrote to Ford suggesting a new approach, one that would put the onus of action on the legislature instead of the executive branch. "[D]espite widespread Congressional lip service at the time of the Embargo," Zarb complained, the Congress had refused to embrace the objective of obtaining energy independence by 1985. Zarb suggested that the administration ask Congress to pass a joint resolution proclaiming energy independence "a major national objective," one toward which "future specific policy directions should be directed." Passage of such a joint resolution, Zarb said, would provide a "useful reference point" for evaluating future legislation.[38]

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[35] Ibid.
[36] Testimony of Frank G. Zarb before the Senate Committee on Banking, Housing, and Urban Affairs, Energy Independence Authority, 12 April 1976, box 5, folder Energy Independence Authority, Frank G. Zarb Papers (hereafter FZP), Gerald R. Ford Presidential Library.
[37] *New York Times*, 24 February 1976.
[38] Memorandum from Frank Zarb to the President, "Proposed Joint Resolution Expressing Congressional Commitment to National Energy Independence," no date, box 12, folder Energy, July 1976, JCF.

Other analysts were less confident that such a strategy would be useful. Ford's budget director James T. Lynn wrote to Eric Zausner, a deputy administrator in Zarb's FEA, professing skepticism for the idea. Zarb had seemed to suggest a basic lack of seriousness on behalf of the Congress in addressing the energy issue, but Lynn disagreed. While the Congress might not have been enthusiastic about the EIA specifically, that did not mean that Congress was not "seriously interested in major legislative solutions to our energy problems." The difference between Congress and the administration, Lynn said, was "not necessarily over ultimate energy goals," but instead merely over how to achieve them. Lynn thus saw the resolution idea as an unnecessary provocation of Congress, the support of which the administration needed to enact other policy ideas.[39]

Moreover, there were several other issues that needed to be addressed first, and doing so might help advance the energy debate much more productively than the proposed resolution. For example, despite its professed commitment, the administration lacked an operational definition of "energy independence" itself. Whether independence would be philosophically based in increasing domestic oil production, increasing production of domestic alternatives to oil, or pursuing more stringent conservation measures, the administration had not specified. It had merely proposed a grab-bag of sundry ideas. Without such an overarching definition, Lynn argued, "Congress and the Administration would continue incessantly over whose approach to achieving an undefined goal was better." With an agreed-upon definition, Lynn predicted, a more useful debate over differences in approach to a clear goal "would flourish."[40]

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[39] Memorandum from James T. Lynn to Eric R. Zausner, "Proposed joint resolution on energy goals," 25 June 1976, ibid.
[40] Ibid.

Energy analyst Robin Mills has noted that achieving "energy independence" is practically impossible for *any* nation in light of global economic interdependence. Even if the US could produce enough domestic oil to sustain domestic consumption, it could not simply remove itself from the global economy; it would still be paying world oil prices. Even the largest oil producers are far from "independent." Many of the nations that produce oil most cheaply rely on foreign military power, technology, and expertise, and many also lack coal, nuclear power, and hydropower. Furthermore, "energy independence" is often conflated with "energy security," a much different concept that refers to the availability of sufficient supplies at affordable prices. With such an array of complicated factors, the failure of the Ford administration and Congress to agree on a definition for "energy independence" is unsurprising.[41] As it turned out, the point was moot, as Ford lost his bid for re-election a few months later. Ford's defeat curtailed the possibility for extensive debate between himself and the legislature, and Jimmy Carter brought his own approach to the energy issue. Lynn's insistence that the debate be brought down to such a basic and fundamental level of definitions, though, showed just how wide was the gulf between the Democratic Congress and the Ford White House.

As expected, Congress let the EIA proposal languish and eventually die. Rockefeller eventually gave up on the idea, and the whole affair diminished Rockefeller's position in the administration.[42] Ford's energy staff would have to pursue other avenues if they wished to effect positive changes in energy policy. They began to do so while the EIA debate was still unfolding. In December 1975, Ford proposed a much smaller $6 billion package of federal loan guarantees to finance several commercial plants that

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[41] See Robin Mills, *The Myth of the Oil Crisis: Overcoming the Challenges of Depletion, Geopolitics, and Global Warming* (Westport, CT: Praeger, 2008), 202-04.
[42] Mieczkowski, *Gerald Ford and the Challenges of the 1970s*, 262.

would produce synthetic fuels. Though the measure made it through the Senate, the more confrontational House killed the idea. Ford tried again in January, putting forward an even smaller $2 billion proposal.[43]

The administration ramped up its defense of this smaller package. In response to fears that the idea was really just a way to get some initial momentum for the Energy Independence Authority – the "camel's nose" into the $100 billion EIA tent – the administration insisted that any further measures would still require specific congressional authorization and appropriations.[44] Though this new measure attracted attention in a few congressional subcommittees, the General Accounting Office (GAO) released a report in late August that was highly critical of synthetic fuels' cost effectiveness. The GAO report itself drew criticism, since it assumed that the price of OPEC oil would remain stable in price over the coming years, which was certainly not guaranteed. The GAO's analysis nonetheless dealt a significant blow to synthetic fuels' momentum in Congress. The House voted down the idea in late September, though only by a single vote.[45]

The Ford administration introduced two proposals to try to increase US energy production, though neither was passed into law. Significant interchange with Congress had resulted in no substantive outcome, and the public controversy made his administration look confused and incompetent. But concurrently with these debates, Ford's staff also had to deal with a congressionally-initiated proposal that they believed

[43] *Wall Street Journal*, 16 January 1976.
[44] "Key Criticisms and Responses Concerning H.R. 12112," box 48, folder Synthetic Fuels Legislation, 1976 Criticisms and Responses, GSF, 3.
[45] *Los Angeles Times*, 25 August 1976, 31 August 1976, 24 September 1976.

would be immensely harmful to the health and well-being of the US energy economy. In this case, it would take tremendous effort merely to preserve the status quo.

Oil Company Divestiture

The skyrocketing oil prices during the 1973 crisis boosted oil company profits. American consumers, seeing the oil industry prosper while they suffered from high prices and shortages, quickly became enraged. This anger at oil companies so prevalent in public sentiment brought Ford into conflict with Congress on the issue of a potential breakup of large oil companies. Lasting antagonism toward the petroleum industry led some members of Congress to pursue both horizontal and vertical divestiture, either one of which would ostensibly have curbed the power that the petroleum industry held over American consumers. Horizontal divestiture would have prohibited oil companies from owning coal and uranium mines and thus controlling competing energy sources. Vertical divestiture would have broken up the drilling, refining, and retail components of integrated oil companies to prevent price gouging. The Senate nearly enacted a divestiture bill in 1975, and the Judiciary Committee's antitrust subcommittee continued to pursue vertical divestiture efforts into 1976, both of which compelled the Ford administration to take a position on the issue.[46]

Inside the administration, Dennis Barnes provided a voice of opposition to vertical divestiture. A top aide to Glenn Schleede, the energy and natural resources expert on Ford's Domestic Council, Barnes generally accepted the oil industry's arguments about the efficiency generated by integrated operations. Barnes also compared the

[46] Vietor, *Energy Policy in America since 1945*, 219-23. One of the principal congressional sponsors of divestiture was Senator Philip Hart (D-MI), who had earned a reputation for anti-corporate crusading by leading the passage of consumer protection laws.

petroleum industry to other major industries, finding that, in terms of return on net worth and degree of concentration, the petroleum industry was not much different from other sectors. "On balance," Barnes wrote advising Schleede, vertical divestiture "would not appear to secure supplies or lower prices for crude and refined petroleum products." The divestiture process would, however, create "disruptive effects of uncertainty and litigation," hindering oil companies' ability to make long-term capital investments.[47]

The Senate's divestiture push drew an even stronger response from the oil industry itself, which panicked and mounted an extensive public relations campaign. It offered a number of reasons why both forms of divestiture were misguided and even harmful approaches. With regard to horizontal divestiture, oil companies argued that their entry into the coal and uranium businesses introduced needed competition into those industries. To oppose vertical divestiture, they cited the importance of economies of scale in the energy industry. Many countries around the world had nationalized their oil industries, concentrating the entire production process under the integrated control of the state. For American oil companies to be able to compete in the global market, American companies argued, they needed to be able to match the efficiency that came with one-entity control of the production and distribution process. Mobil Oil's president claimed that vertical divestiture would result in "higher energy prices and a serious weakening of the nation's ability to become self-sufficient." The chairman of Exxon said it posed nothing less than "a danger to the economy and security of the United States" and would bring "years of chaos" to the oil industry. Backed up with academic economic analysis, the oil industry staved off divestiture and the movement slowed by 1977, but the

[47] Memorandum for Glenn Schleede from Dennis Barnes, "Conclusions from the 'Analysis of Vertical Divestiture,' by the Energy Resources Council," May 1976, box 31, folder Oil Company Divestiture, 1976, GSF.

controversy put quite a scare into petroleum companies and alerted its top executives to the intensity of public anger.[48] Though Ford and the petroleum industry had halted this particular idea, another battle between Ford and the Democratic Congress awaited.

Oil Price Decontrol

The volatility in the US energy economy during the oil crisis had generated emergency attempts to stabilize the price of oil. In April 1971, Richard Nixon had enacted a wide array of wage and price controls within the US economy, including controls on prices of crude oil produced domestically. These actions were meant to curb the rampant inflation wreaking havoc on consumer purchasing power. Nixon added controls on gasoline prices during the 1973 crisis.[49] With the OAPEC embargo keeping foreign oil supply low and the controls holding gas prices down artificially, gasoline was, in many places, both scarce and inexpensive at the same time. This proved to be a ruinous combination. Fear of imminent shortages proved to be a self-fulfilling prophecy. Apprehensive consumers flocked to gasoline stations to fill up their tanks, which quickly ran out of fuel to sell. But even with the panic at the pump inflicting pain upon Americans on a daily basis, the price regulations remained in place. The Nixon administration was too preoccupied with the emerging Watergate scandal to address this obvious problem in energy markets.[50]

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[48] *New York Times*, 2 April 1976; Vietor, *Energy Policy in America since 1945*, 219-23.
[49] Allen Matusow argues that meat prices were the leading cause of inflation in the economy, but oil is an essential input for both meat production and distribution processes. Nixon's broad wage and price controls were therefore meant as a comprehensive solution to stabilize the prices of essential economic inputs like labor power and energy. See *Nixon's Economy: Booms, Busts, Dollars, and Votes* (Lawrence: University Press of Kansas, 1998), 65-66. On the visceral impact of lines at gasoline stations, which included threats and fistfights, see Peter N. Carroll, *It Seemed Like Nothing Happened: The Tragedy and Promise of America in the 1970s* (New York: Holt, Rinehart, and Winston, 1982), 118-19.
[50] See Vietor, *Energy Policy in America since 1945*, 238-49.

By 1975, with the embargo and oil crisis long over, the Ford administration attempted to remove the controls on crude oil. John A. Hill, a deputy administrator at the Federal Energy Administration, testified to the Senate that continued price controls were not necessary and could even be counterproductive. The petroleum industry, he pointed out, operated on a long-term timeline regarding investment in large-scale projects. Constant regulatory changes were "seriously" inhibiting the industry's ability to engage in this long-term planning, and removing regulations would bring some stability to oil companies' ability to project future needs. Furthermore, American demand for oil had decreased for a time after the embargo as Americans adjusted to more stringent lifestyles. Combined with FEA conservation initiatives, the result was an excess of current petroleum inventories. With "surplus" refining capacity in Europe and the Caribbean and "adequate" capacity in the United States, perpetuating price controls as a way to manage shortages made no sense.[51] The president himself made oil decontrol a top priority in 1975, and he quickly found himself confronting a Congress firmly against decontrol.

In the summer of 1975, Ford's top officials staked out the administration's position. Democrats controlling Congress did not favor decontrol, arguing that it would increase prices on consumers while further enriching oil companies, but the president's firmly stated position was to allow gradual decontrol of oil prices over a period of two to four years. He would sign a bill extending controls, Frank Zarb told the Democratic Congress, only with this provision in place. Otherwise, Ford would allow immediate price decontrol on September 1, when the present controls were scheduled to expire. The administration was confident of its bargaining position and was confident that its veto

[51] Statement of John A. Hill before the Committee on Interior and Insular Affairs, United States Senate, 4 September 1975, box 31, folder Oil Decontrol, (S. 622), 1975, GSF, 6, 11, 12.

could not be overridden by a two-thirds majority in Congress; according to the *New York Times*, this was a proposition that Democrats did not "dispute with conviction."[52] The *Christian Science Monitor*, analyzing the parameters of debate, predicted that Ford and Congress would compromise on a three-year decontrol bill.[53]

Yet events did not play out that way. At the end of July, the House rejected a Ford proposal that would have largely decontrolled domestic oil over a 39-month period. The plan would have capped the price of domestic oil at $11.50 per barrel by the end of that period. Though the administration had aimed for a price of $13.50, the majority of domestic crude oil was currently capped at a price of $5.25 per barrel, and the compromise price therefore still represented a sizable increase. Though the world market price for oil was currently around $11, the schedule left room for increases in that price in the coming years. Furthermore, the price decontrol was not scheduled under the plan to be constant; instead, controls would be slowly removed for thirteen months, accelerated somewhat during the next thirteen months, and accelerated still further for the final thirteen months. That way, most of the decontrol would be postponed until 1977, by which time the administration expected the economy, especially high inflation, to improve and thereby lessen consumer pain. The administration was thus hopeful that the deal would pass, but in a surprise for Ford and Zarb, it did not. Speaking for the administration, Frank Zarb was "extremely disappointed" by the vote. One of Zarb's aides proclaimed in frustration that "[t]hat's it – we're going for total decontrol" on September 1.[54]

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[52] *New York Times*, 5 June 1975.
[53] *Christian Science Monitor*, 14 July 1975.
[54] *Los Angeles Times*, 25 July 1975; *Chicago Tribune*, 26 July 1975; *Washington Post*, 31 July 1976. The $5.25 price applied to "old" oil, or that equal to the amount pumped from wells existing in 1972. "Old" oil

The debate took another strange turn at the end of August. With the September 1 deadline imminent, Mobil, the nation's third largest oil company, urged Congress to override the impending immediate decontrol. The other major companies welcomed immediate decontrol for the increased revenue it would yield them. Mobil's president Rawleigh Warner worried that it would unleash inflation and "shock" America's fragile economic recovery. He urged Ford and Congress to work toward a compromise on gradual decontrol. The other major US oil companies reacted with shock and dismay, as they believed that a compromise in the current political climate was impossible. With Ford and the Congress at a stalemate, any continuation of controls, they argued, would likely be indefinite.[55]

On September 1, the controls officially expired, but energy officials were "cautiously optimistic" that no price shocks would occur, as Ford and congressional Democrats had returned to the compromise table to fashion a gradual decontrol plan. The *New York Times* was less hopeful, reporting that Senator Henry Jackson (D-WA) had already proclaimed opposition to *any* decontrol plan, calling it "inflation on the installment plan." Representative Bob Eckhardt (D-TX) sounded a similar note, saying that price controls should continue "so long as we can't see the end of O.P.E.C. prices, cartel prices." To stop the effect of immediate decontrol on the overall price level while negotiations continued, Zarb floated the idea of making an anticipated reinstatement of controls retroactive to September 1, though government lawyers conceded that they

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made up 60 percent of domestic crude output. "New" oil, volume in excess of that drilled in 1972, was uncontrolled, and the Ford plan would have eventually put it under the same $11.50 figure proposed for "old" oil. "New" oil comprised 25 percent of domestic crude output. The plan therefore proposed to, over the 39-month period, equalize the price of "old" and "new" oil. The remaining 15 percent of domestic crude output came from "stripper" wells, or those producing less than ten barrels per day, which were not currently controlled and would not be affected by Ford's plan.

[55] *New York Times*, 25 August 1975, 26 August 1975.

would be unable to punish producers who refused to sell at controlled prices in the interim period, since decontrolled prices were currently legal. Any adherence to controlled prices on the part of producers would, for the moment, therefore have to be voluntary.[56]

With all of this uncertainty, it was totally unsurprising that the *Los Angeles Times* reported "utter confusion" within the oil industry on September 3. Exxon, Continental, and Ashland all suspended the posting of prices that they would pay to crude suppliers, with Exxon saying flatly that it could not "responsibly establish" the price it should pay. Mobil and Conoco proclaimed their intention to begin paying market prices to suppliers. Shell, which had said the previous week that it planned to raise its posted price, reported that it was postponing the increase instead. Cities Service, on the other hand, instituted the increases that it had posted the previous week, although a spokesman also said that "We don't know whether we are controlled or decontrolled." This uncertainty was creating a "perfect state of confusion." Standard Oil of Indiana said it would continue to offer suppliers prices under control, but also sent a letter to customers saying that also it reserved the right to raise those prices retroactive to September 1.[57] Ford battled with the Democratic Congress for several weeks over the parameters of a short-term extension of controls, and it was not until September 25 that the president and Democrats came to an agreement reinstating controls retroactively to August 31 and keeping them in place until November 15, which would allow more time for negotiation. Ford indicated, though, that this would be the last extension to permit further negotiations, and that permanent

[56] *New York Times*, 1 September 1975.
[57] *Los Angeles Times*, 3 September 1975.

immediate decontrol would result if he and Congress could not reach a long-term agreement.[58]

But the terms of debate were soon to change. Congress and the administration continued to argue throughout the fall and into winter, but Congress, enabled by a post-Watergate weakening of executive power, wrested the initiative from Ford. Congress passed and Ford approved another 30-day extension on November 15. Near the middle of December, a conference committee of House and Senate members produced the omnibus Energy Policy and Conservation Act, which contained a forty-month extension of controls. Producers urged Ford to veto the bill. Zarb, who had painstakingly negotiated the compromise on Capitol Hill, publicly denied media rumors that he would resign if Ford chose to veto. Zarb need not have worried about such a decision, though, as the president decided to take what he could get. There were more self-centered reasons for the shift, too. Ford had attracted a primary challenge from former California governor Ronald Reagan in the intervening months, and immediate decontrol now threatened great harm to the president in the upcoming New Hampshire primary. Ford reluctantly signed the bill into law at the end of December.[59]

The president had therefore expended significant political capital and spent much time trying to institute decontrol, with practically nothing to show for it. In the absence of immediate crisis, energy paled in comparison to inflation as a policy issue, and oil price decontrol threatened to exacerbate this more pressing concern. Months of effort had resulted in a failure to change anything of consequence. Much like the EIA debate, the

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[58] *Washington Post*, 26 September 1975; *Chicago Tribune*, 30 September 1975.
[59] *Washington Post*, 15 November 1975; *Los Angeles Times*, 8 December 1975; *Wall Street Journal*, 23 December 1975; *Los Angeles Times*, 23 December 1975; Vietor, *Energy Policy in America since 1945*, 251-52.

administration had lost a long legislative battle and appeared incompetent and impotent. After repeatedly clashing with the legislature over the future of oil prices, Ford again discovered emphatically that Congress would continue to drive energy policy.

The Department of Energy and Natural Resources

One final Ford administration idea also highlighted his legislative energy failures. In 1971 and again in 1973, the Nixon administration had submitted legislative proposals to create a Cabinet-level Department of Energy and Natural Resources (DENR). The 1973 proposal would have consolidated most of the Interior Department, the Forest Service, a few water resources activities of the Soil Conservation Service, the National Oceanic and Atmospheric Administration, and the Water Resources Council. After the 1973 proposal had been stalled, the oil crisis occurred, and in response, Congress had created FEA, the Energy Research and Development Administration (ERDA), the Nuclear Regulatory Commission, and the Energy Resources Council. The creation of all these new agencies had made the task of creating energy policy more complex. The administration revisited the idea of proposing a Cabinet department to consolidate and coordinate the activities of all of these entities.[60]

Discussions on restarting the proposal did not last long. In May 1975, budget director James Lynn recommended that the administration not pursue the idea any further, and Michael Duval agreed. These opponents of resurrecting the idea wanted Congress to focus on passing "substantive" energy legislation – including, presumably, the oil decontrol proposal then under consideration. They also wished to avoid giving

[60] James T. Lynn to Rogers C.B. Morton, "Administration Position on a Department of Energy and Natural Resources," no date, box 5, folder Department of Energy and Natural Resources (proposed), MRDF.

Congress the "out" of passing an organizational restructuring that would do little to change actual policy. Duval argued that if the administration did indeed put forward a proposal, the name of the new entity should simply be the Department of Natural Resources. "It's true that energy is the hot ticket item today, but a year from now, or two, it might be back to the environment or something else. I think it is short-sighted to highlight energy in the name of the department."[61]

Duval's suggestion was moot, as a few days later Ford agreed with Lynn and Duval and decided not to pursue legislation.[62] But Duval's prediction proved to be wildly inaccurate. The next fall, Ford would be defeated in his bid for re-election by former Georgia governor Jimmy Carter, and the new chief executive would make energy more of a "hot ticket item" than Duval could have imagined. Frank Zarb produced a lengthy briefing book for the new administration to review, and it contained analyses of many of the ideas that Ford had pursued and that Carter would later engage with. In an observation that would prove prophetic in terms of problems faced by the Carter administration, the book noted that though "Energy conservation has become a popular political issue" in the abstract, it was nonetheless "difficult to receive widespread support for specific proposals, since any additional regulation involves restricting personal or business choices."[63]

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[61] Memorandum from Mike Duval to Jim Cannon, "Lynn Memo Re Department of Energy and Natural Resources," 22 May 1975, ibid.
[62] Memorandum from Jerry H. Jones to Jim Lynn, "Department of Energy and Natural Resources," 22 May 1975, ibid.
[63] See "Perspective on Energy Policy," 16 December 1976, box 9, folder Transition, 1977 – Briefing Paper for the Carter Administration, FZP, which discusses a wide array of energy issues including regulatory policies, multinational oil companies, nuclear power, research and development, financing, and other topics. The quotation comes from page 42.

The Nowhere Agenda

Nixon and Ford therefore placed energy on the public policy agenda while in office, and Jimmy Carter especially followed Ford's energy lead when proposing legislation. Carter is often cast as the president who first made energy a major public policy issue, but many of his energy achievements – including synthetic fuels legislation, a Cabinet department to deal with energy and natural resources policy, and the decontrol of crude oil prices – were pursued in various forms by his predecessor. Ford also exhorted the need for conservation, speaking of the need for Americans to monitor personal consumption and alter daily habits in much the same way that Carter would later do. But Carter was able to achieve policy successes where Ford failed. The difference between the two leaders was one of passion, priorities, and circumstance. Ford pursued some items like the Energy Independence Authority halfheartedly at best. Other agenda items, like oil decontrol, went nowhere due to the absence of immediate crisis, which helped preserve the status quo. Finally, much of Ford's political efforts in terms of energy went toward preventing divestiture proposals. There was little political capital left to pursue new initiatives. Simply keeping things as they were took tremendous effort.

Energy is a complex commodity involving myriad interest groups and stakeholders. Making substantive changes required focus and attention, and Ford split his among a number of different ideas, drawing criticism from a number of constituencies on every proposal. In contrast, Carter declined to pursue divestiture – focusing his attention on passing a national energy plan – and Congress had all but given up on divestiture by 1977 too. Oil companies that had lined up against Ford were therefore less hostile when Carter proposed a national energy plan. In terms of oil decontrol, circumstances were also

much different in 1979 than in the middle of the decade. Though decontrol seemed unnecessary during the Ford years due to the lack of immediate crisis, the Iranian Revolution of 1978 opened political space Carter to begin decontrolling prices the next year. Some of the ideas and initiatives that had brought Ford into conflict with Congress were much less politically damaging to his successor. As chapter 3 discusses, there were some areas of energy policy, such as the handling of the United Mine Workers union, in which Ford performed much better than Carter. But at no time did Nixon or Ford enact anything that approached a national energy policy.

It is highly likely that Ford never intended to make energy a major priority. As one historian of Ford's presidency has argued, Ford cared comparatively little for domestic issues and never intended for the Domestic Council to take a proactive role in developing policy. Ford himself was focused on foreign affairs while in office; he was especially concerned with extricating the United States from involvement in the Vietnam civil war, with the last American advisors and officials not leaving the country until April 1975. Ford had intended that the Domestic Council merely function to "put out brush fires" like the Boston busing crisis and the prospective bankruptcy of New York City, not formulate and execute new sweeping policy measures. Such an arrangement, according to this interpretation, was designed to keep Vice President Rockefeller occupied while Ford, Secretary of State Henry Kissinger, chief of staff Donald Rumsfeld, and Defense Secretary Richard Cheney made the big administration decisions.[64] But whether or not the Domestic Council had been *intended* to play a major role in shaping domestic policy, the fact remains that battles over the EIA, divestiture, oil decontrol, and the Energy

[64] Greene, *The Presidency of Gerald R. Ford*, 84-85. On the Boston busing crisis, see 86-90. On the New York City fiscal crisis, see 90-95.

Department drew opposition from Congress along with skeptical media coverage. Rockefeller's passion for the EIA was especially successful in generating critical newspaper headlines on a regular basis.

Historians of Jimmy Carter's presidency often blame his perceived failures in energy policy on his troubles with Congress, noting the myriad conflicts that Carter encountered while trying to get his energy proposals through the legislature. Such analysts often focus on Carter's supposed smugness, moralism, and pessimism, arguing that attempts to ram his agenda through Congress while not respecting the legislature's autonomy poisoned the relationship between the two branches of government. But Ford had faced the same troubles and clashes with Congress that Carter would later encounter. Ironically, it was Carter's relative legislative success in energy that helped create his abysmal reputation in popular memory. Each component of the nation's energy economy, including oil, coal, nuclear power, hydroelectricity, and conservation, involves a slate of stakeholders whose interests are often irreconcilable. Because few of Ford's most sweeping proposals ever became law, he never had to deal with aligning the conflicting interests embedded within the various components of the energy economy. Jimmy Carter did, and his problems therefore ran much deeper than simply a hostile personal relationship with members of Congress while creating the Department of Energy. There were several similarities between Ford's and Carter's energy policy agendas, but only Carter was successful in turning his ideas into concrete policy achievements. The next chapter explores in depth how Carter's policy successes ultimately contributed not only to his own undoing, but also to the emergence of a new anti-government ideology in the field of energy policy.

Chapter 2: "Little bitty cars": The Department of Energy, Oil Decontrol, and the Anti-Conservation Backlash

Though Richard Nixon and Gerald Ford had proclaimed the necessity of energy conservation after the oil embargo, Jimmy Carter took the federal government's commitment to conservation initiatives to an entirely different level. He believed that the oil crisis was symptomatic of a much larger problem, namely that natural resources were running out and that future energy shortages would be even worse than 1973. The cornerstone of Carter's energy policy was the establishment of a cabinet-level Energy Department to encourage Americans, through an extensive public campaign and a slew of new government programs, to use less energy in their daily lives. Carter coupled this formal policy initiative with regular rhetorical warnings that the sustainability of continued economic growth was in doubt. No longer could Americans use more and more energy every year, Carter argued; they would instead need to engage in acts of self-sacrifice and cut back on individual energy use in order to achieve collective energy sustainability. Altogether, the measures created a national energy policy more comprehensive than any that had come before.

Yet some Americans rejected Carter's admonitions. They denied that resources were running out and therefore rejected the idea that energy sustainability required drastic cutbacks in personal consumption. These Americans demanded that the federal government do more to secure energy supplies for the future, or that it get out of the way of private businesses. Other Americans were initially more receptive to Carter's warnings and accepted the idea that conservation might be necessary in order to achieve energy security. But the Iranian hostage crisis of the late 1970s greatly damaged Carter's ability

to convince the public of the necessity of his energy plans. Carter had promised that conservation and more responsible energy use would bring stability to energy markets, but by late 1979 Americans found themselves facing yet another horrendous national crisis.

As problems seemed to pile up with no solutions in sight, the Republican Party's conservative wing used the energy crisis to advance long-held ideas about the overriding importance of market solutions and the tragic inefficiencies of government planning programs. Denying the necessity of sacrifice and conservation, these market fundamentalists instead advocated for deregulating energy entirely, allowing the mechanisms of the free market and the creativity of the private sector to solve the nation's energy problems.

There was one major obstacle to exalting the righteousness of deregulatory politics that market fundamentalists had to confront. The 1960s had witnessed several landmark events, book-ended by the 1962 publication of Rachel Carson's *Silent Spring* on one side and the Santa Barbara oil spill and the ignition of the oily Cuyahoga River in Cleveland in 1969 on the other, that helped form a new environmental consciousness within the broader public.[1] Through the course of that decade, the human impact on

[1] As the footnotes throughout this chapter indicate, the literature on the American environmental movement is vast. Most generally, the years after World War II had witnessed a consumer culture that, according to one historian, was characterized by the belief that "energy and resources were limitless," thus the shocking nature of these disasters. See Michael Egan, *Barry Commoner and the Science of Survival: The Remaking of American Environmentalism* (Cambridge: The MIT Press, 2007), 16. On the "dangerous environment" that Americans saw after these catastrophes, see 79-87. Roughly concurrent with the emergence of this new environmental consciousness was the establishment of ecology as an academic discipline. In contrast to scientific fields that focused on economic growth as a narrative of unbounded advancement, ecology examined technological development as a phenomenon "that might lead to progress in one area only to create greater harm somewhere else." See Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York: Cambridge University Press, 1991), 259. Before these disasters, the suburbanization of America had forced homeowners to confront environmental dangers on a smaller scale, including overflowing septic tanks and detergents in

ecosystems, including the effects of energy production and consumption, emerged as a major public concern. Always willing to exploit the prevailing political winds, Richard Nixon created the federal Environmental Protection Agency (EPA) in 1969. Environmental regulations, including the Clean Air Act, Clean Water Act, and Endangered Species Act passed in the early 1970s with broad bipartisan support, and 1970 was the inaugural year of the Earth Day celebration. Direct assault on environmentalism, especially in the early 1970s, was thus not a viable political option.

Republicans came up with a different strategy. While initially conceding to the potent political power of environmentalism, the GOP gradually turned against it as part of the embrace of energy deregulation. As Republicans increasingly criticized government regulation and cheered market-based solutions, they – especially those running the party's political apparatus – developed the strategy of using vague suggestions that energy development and environmental concerns could be "balanced" through careful mobilization of market processes. As Carter's conservationism increasingly appeared to have failed, Republicans spoke more forcefully about the power of market processes to keep the environment clean and guarantee abundant energy again. They began to cast the environmental movement, which had generally enjoyed wide respect since the early 1970s, as a radical force that was unwilling to make common-sense compromises that would get energy flowing to American consumers again. They also criticized federal laws protecting the environment as unreasonable constraints on business, and argued that allowing the market to work would generally keep the environment clean, as the power of

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their drinking water. See Adam Rome, *The Bulldozer in the Countryside: Suburban Sprawl and the Rise of American Environmentalism* (New York: Cambridge University Press, 2001).

public opinion, not coercive federal laws, was the best way to regulate businesses' potentially damaging effects on the environment.

For Republicans, the rhetorical trope of "balance" was essential to their energy ideology. Businesses engaging in excessively dirty practices and unreasonable environmentalists each represented an equal threat to American life. Republicans generally offered few clues as to how this "balance" would function in practice, especially when energy production and environmental protection came into irreconcilable opposition. But because most Americans did not understand the incredible complexity of America's energy economy and its relationship to environmental protection, the Republicans' strategy achieved wide political resonance, despite its incoherence.

The GOP coupled its skepticism for environmental regulation with advocacy for decontrolling energy prices, especially the price controls that had been placed on oil by Richard Nixon. Carter himself began his presidential term by proposing a quasi-deregulation of oil prices, but the initiative was defeated in Congress. During the Iranian Revolution, Carter redoubled his efforts to decontrol the price of oil in order to spur conservation, and he succeeded in instituting a schedule of gradual decontrol, designed to ease companies and consumers into an unregulated marketplace without any major disruptions. Gradual decontrol was not acceptable to GOP presidential candidate Ronald Reagan, who advocated immediate decontrol of oil prices in order to create enhanced incentives for production. Taking advantage of the gradual and barely noticeable schedule of decontrol under Carter, Reagan downplayed Carter's deregulatory impulses in public statements and claimed that he, if elected, would come to the rescue of the private sector and release energy producers from the shackles of government regulation.

American consumers responded and voted him decisively into office, though Carter's and Reagan's oil policies shared some overlap. But once in office, Reagan and the market fundamentalists transformed Carter's targeted deregulation into a more wide-ranging attack on government itself.

Environmental regulations and price controls are two very different types of government intervention into the marketplace. Yet both came under intense criticism and political attack in the late 1970s in the wake of multiple energy crises. Republicans and business interests argued that environmental protections were too broad and were harming the American standard of living. The discrediting of Carter's conservationist ethos, which was closely tied to respect for the environment and skepticism about the sustainability of perpetually-increasing economic growth, helped allow the GOP's more antagonistic characterization of environmental regulation to gain traction in political conversation. And both Carter and Reagan agreed on the need to remove price controls on oil. The decline of environmentalism, coupled with the bipartisan acceptance of price deregulation, helped usher in an era of market-based thinking in American energy politics.

Creating the Energy Department

Though the 1976 campaign's major issues included cleaning up Washington after the Watergate scandal, fighting the Cold War, and especially addressing economic stagnation and inflation, Carter made energy a major priority upon taking office. Instead of thinking of energy as one public policy issue among many, Carter saw it as *the most* important facet of domestic policy, because energy was used in every aspect of modern

life ranging from homes and cars to factories and railroads. Carter especially thought that government had to step in to secure energy supplies, not only because of its connection to everyday economic and social life, but also because he believed that the world was running out of oil and gas. A comprehensive national policy, he insisted, was essential.[2] In addition to his emphasis on energy's economic centrality, there was also a moralistic dimension to Carter's energy focus. He thought that humanity had been divinely blessed with natural resources and had a responsibility to use them wisely. Americans, he believed, had been wasteful and profligate to the point of wickedness in their pursuit of individualized consumption. He was determined to alert Americans to their sins of excess and set the United States on a new, more righteous course.[3]

In fact, contrary to Carter's beliefs, resources – especially oil – were not in danger of imminent depletion.[4] Carter, along with much of the environmental movement, took the disaster of 1973 as proof that the world was running out of oil, thereby committing the logical flaw of casting a manmade event – a purposeful embargo – as evidence of natural limits. Nevertheless, the new president's focus on reforming energy would not be deterred. He brought in James Schlesinger as an adviser in anticipation of the creation of a Cabinet-level Department of Energy, which Schlesinger was expected to head upon its establishment. Having served on the Atomic Energy Commission, and having also subsequently skirmished as Secretary of Defense with Henry Kissinger as a member of the Ford administration, Schlesinger was one of the very few in Carter's team with substantial understanding of the realities of Washington politics. Most of Carter's other

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[2] Peter Z. Grossman, *U.S. Energy Policy and the Pursuit of Failure* (New York: Cambridge University Press, 2013), 169, 172.
[3] Ibid, 167-68.
[4] See ibid, 173; Allitt, *A Climate of Crisis*, 67-69.

senior staff members had, like the new president, spent their careers in Georgia. They were inexperienced in the ways of national policymaking.[5]

Carter's views on energy became apparent soon after his election, as he seemed to take every opportunity to articulate them publicly. A few days after taking office, at a briefing on natural gas legislation, for example, Carter spoke about his vision of the nation's energy future more broadly. He asked every American to lower the thermostat setting in his or her home, adding that "I must say to you quite frankly that this is not a temporary request for conservation." The nation's energy problems would not be resolved within a mere few years; "Further sacrifices," the president said, "may be necessary." Carter exhorted all Americans "to cooperate in minimizing the adverse effect on the lives of our people." The next day, Carter informed a group of Pennsylvania students that Americans would have to learn to do without various things to which they had become accustomed, speaking of "small sacrifices" that all would have to share. And, just before the two-week anniversary of his inauguration, Carter told the public that "I know that we can meet this energy challenge if the burden is borne fairly among all our people."[6] Practically all of Carter's early speeches on energy, which he famously dubbed the "moral equivalent of war" at the beginning of his term, echoed these austere themes.[7]

Schlesinger quickly developed skepticism for Carter's approach. As he later recounted, Carter, who had come to power promising to clean up government in the wake

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[5] John Dumbrell, *The Carter Presidency: A Re-evaluation* (New York: Manchester University Press, 1993), 29.

[6] Natural Gas Legislation: Remarks at a News Briefing on the Legislation, 26 January 1977, *Public Papers of the Presidents of the United States: Jimmy Carter: 1977*, Book 1 (Washington, DC: Government Printing Office, 1977), 21-22; West Chester, Pennsylvania, Students: Question-and-Answer Session With Students From Stetson Junior High School, 27 January 1977, ibid, 29; Report to the American People: Remarks from the White House Library, 2 February 1977, ibid, 71.

[7] On Carter's persistent pessimism see especially Robert M. Collins, *Transforming America: Politics and Culture in the Reagan Years* (New York: Columbia University Press, 2007), 22-25.

of Watergate, had a fresh attitude that was a double-edged sword, reflecting as it did a lack of experience in the rough-and-tumble of national politics. Schlesinger noticed in Carter an immense intelligence and "a very quick mind" that, while allowing him to obtain a quick grasp on a wide variety of issues, also encouraged him to get involved in more activities than he should have. After determining that energy was the most important domestic policy priority, he attempted to tackle a number of other unrelated issues at the same time. He was unable to prioritize issues effectively and pursue them in a strategic manner, instead trying to solve a wide array of problems at once.[8] The White House's organizational structure, in which the lack of a chief of staff caused Carter to repeat the same conversations over and over again with a number of senior aides who drifted in and out of his office, also caused immense difficulties.[9]

In 1977, the first year of his presidency, Carter convinced the Congress, which was controlled by Democrats, to take up the task of creating a new federal Department of Energy, with the main aim of encouraging conservationist goals. His strategies in constructing the Department quickly drew criticism from members of his own administration. Before the Department's formal establishment, for example, Schlesinger pulled selected personnel out of the Federal Environmental Agency (FEA, established in 1974 to collect and analyze energy information) and the Energy Research and Development Association (ERDA, established in 1975 to manage non-defense government nuclear programs) to form a proto-department and to formulate a federal energy policy. Schlesinger, though, was outside the normal flow of the White House's domestic policy staff and thus had great trouble coordinating with other policymakers.

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[8] James Schlesinger Interview, Jimmy Carter Presidential Oral History Project (hereafter JPOH), Miller Center of the University of Virginia, 19-20 July 1984, 2-15.
[9] Dumbrell, *The Carter Presidency*, 30-31.

Carter wanted Schlesinger's conclusions to remain secret until their roll-out; at a practical level, though, entities like the Treasury Department, which would be affected by the establishment of new tax credits and other incentives, had no knowledge of or input into the plans. The ninety-day timeline to finish a proposal was, in domestic adviser Stuart Eizenstat's view, "inordinate."[10]

Perhaps of most importance, Eizenstat noted energy's very minor role in the 1976 campaign. "And here we were putting together on a crash basis something that was going to become a centerpiece of Carter's domestic policy, and a centerpiece of his Presidency, when it had not reached the level of public attention as even being an issue."[11] Carter saw the president's proper role as that of a "public trustee," a chief executive who needed to consciously avoid taking sides in disputes among special interests. Rather than act like the parochial members of Congress who were concerned only about their groups of local constituencies, Carter believed he needed to make decisions with all of American society in mind. The by-product of this attitude, however, was that Carter did not see a need to persuade Americans and their elected representatives of the morality and virtue of his plans. He could simply act as he saw fit, he thought, ignoring the provincial desires and wishes of legislators. In a democratic society in which the public needs to be convinced of the necessity of major government action, however, this attitude slowed the movement of Carter's agenda through Congress and his ability to marshal public opinion.[12]

Once completed, Schlesinger's proposal called for a tax on all domestic oil production, a surcharge on automobiles that failed to meet federal minimum fuel

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[10] Stuart Eizenstat Oral History, JPOH, 29-30 January 1982, 25-26.
[11] Ibid.
[12] See Burton I. Kaufman, *The Presidency of James Earl Carter, Jr.* (Lawrence: University Press of Kansas, 1993), 3.

efficiency standards, mandates for public utilities to switch to coal consumption from oil and gas, and tax incentives to encourage conservation. Carter declined to pursue oil company divestiture. Though he had supported divestiture during the 1976 campaign, once in office he generally accepted the argument that large, integrated companies were necessary to achieve optimal efficiency. Furthermore, he knew that passage of his energy bill would require marshalling the broadest possible support, including that of oil companies. The reorganization part of the plan proposed to consolidate the FEA, the ERDA, the Federal Power Commission (established in 1930 to handle licensing of hydroelectric projects), and several other smaller agencies under unified control. Carter presented the proposed bill to Congress and the public in mid-April.[13]

Public opinion on Carter's plan was mixed. A Gallup poll in September found that 44 percent of the public approved of Carter's energy efforts, with 39 percent disapproving. A third claimed that the plan called for an "about right" amount of public sacrifice. Twenty-eight percent claimed that it called for too much, and another 28 percent claimed that it did not call for enough, nearly a three-way split. Though these numbers showed a sharp divergence in public opinion on Carter's specific plans, 38 percent of the public described the energy situation as very serious, and 43 percent described it as somewhat serious, indicating that Carter had at least some success in making energy a major public policy issue again. Only 15 percent of Americans claimed to be doing nothing to reduce their energy use, and another Gallup poll that same month found 66 percent approval for Carter's general performance thus far in office. After the

[13] Sean Wilentz, *The Age of Reagan: A History, 1974-2008* (New York: Harper, 2008), 79-80. On Carter and divestiture see Richard H.K. Vietor, *Energy Policy in America since 1945: A Study of Business-Government Relations* (New York: Cambridge University Press, 1984), 223-24. The coal conversion component of the National Energy Plan is discussed at greater length in chapter 3 of this dissertation..

national trials of Vietnam and Watergate, many seemed willing to give their new president some breathing room to implement his vision for the country's future, even given his moralizing exhortations for Americans to rethink their daily consumption. Four months after its initial unveiling, Carter's energy bill passed the House by a substantial margin.[14]

The bill stalled in the Senate. One of the major points of contention was a mechanism designed to wean the nation from oil called the Crude Oil Equalization Tax (COET). The tax would have been applied to refiners, who presumably would have then eventually passed the cost down to consumers in the form of increased pump prices and home heating bills. With prices higher, Carter believed, consumers would use less energy. Though mimicking decontrol in many respects, this plan was not precisely the same thing. Carter held to his view that formal price controls should remain in effect so long as oil prices remained subject to OPEC manipulation. The price of oil would still be controlled through the COET, allowed to rise no faster than the general rate of inflation. Sensitive to any increased taxation of the oil industry, southern Democrats from oil and gas producing states, especially the Senate Finance chairman Russell Long of Louisiana, defeated the COET in Congress.[15]

In the time between House and Senate consideration of the bill, Congress also found that public support for the bill had declined significantly. Greg Schneiders, a member of the White House communications staff, thought he knew why. Having had more time to consider the proposal, the public would probably not be receptive to the idea

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[14] Ibid; The Gallup Poll Release, "Americans Divided Over Carter Energy Leadership," 8 September 1977, in box 42, folder 10, Howard H. Baker, Jr. Papers (hereafter HBJ), Howard H. Baker, Jr. Center for Public Policy, University of Tennessee; The Gallup Poll Release, "2 in 3 Express Approval of Carter Job Performance," 11 September 1977, ibid.

[15] Vietor, *Energy Policy in America since 1945*, 260.

that the nation was running out of fuel, he said. "There is significant disagreement among experts on this point," and furthermore, there were no longer any visible gas lines or rationing orders to compel alarm. "The public likes to think that technology will bail us out – and it might well." After the collapse of lengthy negotiations between the House and the Senate in May 1978, House Speaker Tip O'Neill threatened to divide the proposal into five separate bills. In October, Congress finally sent Carter an energy bill, but one that emphasized tax credits instead of new taxes to provide incentives for conservation, and one without the COET. Carter somewhat reluctantly signed this National Energy Act into law, and formally appointed James Schlesinger as the Energy Department's first head.[16]

Republican Responses

The Republican response to Carter's first plan was quite varied. Many Republicans conceded that energy consumption was too high, but rejected the idea that government should lead the way in solving the problem. Other Republicans, especially those believing in the importance of market solutions, presented more forceful opposition to Carter's energy program and the assumptions on which it was based. The rising prominence of the conservative wing in the party's public messaging campaign held significant implications for the party's self-identity.[17]

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[16] Memorandum for Jerry Rafshoon from Greg Schneiders, no date, box 98, folder Energy, 5/8/78 - 8/2/78 [O/A 6148], Office of the Chief of Staff Files (hereafter CSC), Jimmy Carter Presidential Library; Wilentz, *The Age of Reagan*, 81-83.

[17] As Geoffrey Kabaservice argues, the period from Nixon's re-election campaign in 1971 to Ronald Reagan's election in 1980 represented an era in which the influence of moderates in the Republican Party declined precipitously in favor of the party's conservative wing, an outcome that Kabaservice sees as unfortunate. See *Rule and Ruin: The Downfall of Moderation and the Destruction of the Republican Party* (New York: Oxford University Press, 2012), 326-62.

The GOP response to Carter's plan in the US Senate largely conceded to Carter's description of the energy problem. Calling the energy struggle "a fundamental crisis that threatens the American way of life," the Senate Republican Energy Initiative in 1977 generally agreed with Carter's characterization, foreseeing continued summer lines at gas stations, increased inflation, and shortages of food and agricultural problems if energy troubles were not addressed. The plan included continued federal funding for solar research, demonstration, and commercialization, as well as tax credits for the installation of solar heating, cooling, and hot water systems. It favored reducing the time to build and license nuclear power plants, long with an expedited program to develop uranium resources on public and private lands. Most significantly, the plan conceded that ending "unwise use and excessive consumption" of energy by Americans would be necessary.[18]

The approach was similar in the House of Representatives, with Republican members in the minority asking for deregulation of natural gas prices, provision of funds for mass transit, synthetic fuel development, and highway maintenance. House Republicans' main complaint was related not to substance but to procedure; they angrily denounced the fact that the Democratic bill, running at around five hundred pages, was reported out of the House Ad Hoc Energy Committee in less than three days, which to them meant that it had not been subjected to sufficient scrutiny. The bill's content itself, though, was subjected to minimal objection. The House Republicans sought to position their proposal as moderate, claiming that both the Republican and Democratic plans

[18] "Republican Report: Preface to the Senate Republican Energy Initiative," undated, box 10, folder 10, HBJ; Press Release, "Minority Members Unveil Substitute Energy Bill," 25 July 1977, box 9, folder 38, HBJ.

agreed on the general goals of both reduced energy consumption and more efficient use of natural resources.[19]

The tone of the Republican Party's statements targeted toward the general public was markedly different. Anticipating the 1978 midterm elections, the party's electoral arm used the energy issue to draw a distinction with Carter. In June 1977 the GOP ran a "special broadcast" on the NBC television network, featuring some of its most promising rising stars, to criticize Carter's plans. The GOP's different factions were united in the general belief that tax reduction could be the main catalyst of economic growth and opportunity, and that government regulation was almost invariably a stranglehold on business that caused more damage than it prevented. Unsurprisingly, much like the rank and file of congressional Republicans, they castigated taxes meant to compel reduced consumption. But they went even further in their criticism of Carter, denying the existence of excessive energy demand altogether. Representative Jack Kemp of New York, a former Buffalo Bills football player, claimed that "People in America work nearly five months of the year just to pay their taxes on the federal, state, and local level. It's obvious to me and quite obvious to the people I represent in western New York that we don't need higher taxes, we need lower taxes…they also know that raising taxes on energy will not create one new barrel of oil."[20]

Governor Ronald Reagan of California, who had posed a stiff right-wing challenge to Gerald Ford in 1976 for the Republican presidential nomination, argued that "[f]or the average family, the President's program could eventually cost over $1000 a

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[19] Ibid.
[20] "Energy: Another View – A Transcript of the NBC News Special Broadcast," 2 June 1977, box 54, folder 11, Bill Brock Papers (hereafter BB), Howard H. Baker, Jr. Center for Public Policy, University of Tennessee.

year in new federal taxes." "Let's face it. This isn't an energy program. It is a tax program with the extra cost for gasoline and family-size cars amounting to the biggest tax increase in our history, over $70 billion a year."[21] The goal of Carter's tax policies was to dis-incentivize consumption, but Kemp and Reagan assumed that consumption would remain constant. They did not expect Americans to have to give up anything in their daily routines. Kemp and Reagan both disagreed with the idea that American energy demand was too high, and characterized the tax increases as misguided government coercion against American families. Compelling consumers to decrease demand, whether voluntarily or through taxation, they argued, would do nothing but siphon capital out of the cycle of production and innovation, which could best solve energy problems.

Bill Brock, a former U.S. Senator from Tennessee, appeared in the special too. After losing his seat in the 1976 election due to questions about his personal income taxes as well as a general post-Watergate backlash against Republicans in that cycle, Brock had assumed the post of Republican National Committee chairman.[22] He had marked himself as a strong partisan with an affinity for combative rhetoric throughout his Senate term. Equating the "erosion of our liberties" with "the growing power of federal regulatory agencies," Brock had once declared the federal government as the main threat to freedom. In the energy special, although he spoke positively of the general idea of conservation, he concurred with Reagan and Kemp that it "should be achieved not through high taxes" to decrease consumption, but instead through investment in mass transit, improvements in auto efficiency, and tax credits for home insulation. Brock did

[21] Ibid.
[22] Brock faced public criticism in 1976 when it became known that he had paid only $2,026 in federal income taxes on an income of $51,670 the year before; see *New York Times*, 28 October 1976. On Watergate's role in the 1976 congressional elections see *Wall Street Journal*, 11 October 1976.

not address the difficulties in getting many Americans to accept mass transit without a tax on gasoline to raise the price of driving for consumers, and he also ignored the fact that increased automobile efficiency almost always came only through government mandate. Also like Reagan and Kemp, Brock extolled the possibilities for new fuel supplies, mainly fossil fuels. "Production of oil and gas, natural gas, coal, nuclear energy," Brock claimed, "all of them will be available to us in greater abundance if only the government will back off and allow producers greater opportunities to go after them."[23]

Notably absent from Brock's exhortations, as well as those of the other speakers, was a recognition that many of the regulations they deplored had only recently been put in place to protect the environment from the potentially harmful effects of energy production and consumption. Whether considering the impact of burning carbon-rich coal on the atmosphere, the potential for spilling oil into the ocean ecosystem, or the challenge of finding somewhere to store nuclear waste until it no longer posed a threat to human life, the extraction and use of energy sources was a very complex process. The simple demands to decrease regulation and increase supply did not adequately recognize this complexity. Carter's energy approach was based on the assumption that both energy production and consumption, like all economic activities, involve tradeoffs among competing values, and that environmental quality is one of them. The deregulatory ethos – and especially the later proliferation of the rhetoric of "balance" – obscured this fact.

In fact, to take Brock as an example, GOP views on the relationship among energy production, energy consumption, and the environment had often been difficult to discern. A 1974 press release from Brock, for example, publicized an "unbelievable

[23] "Energy: Another View – A Transcript of the NBC News Special Broadcast," 2 June 1977, box 54, folder 11, BB; Press Release, 25 March 1972, box 10, folder 7, BB; Press Release, 24 May 1973, ibid.

amount of duplication and overlap" in water pollution programs, claiming that water pollution research was being conducted and supported by at least twenty-five bureaus and offices in twelve government departments. Brock clearly saw such coverage as inefficient, and in 1975 on the Senate floor deplored the fact that antipollution regulations were projected to cost $60 billion per year by the 1980s.[24] For Brock, in the abstract, having multiple departments regulate pollution was a wasteful setup that impeded the efficiency of energy production and distribution.

In December 1974, though, Brock had called for the preparation of a comprehensive environmental impact statement concerning a proposed strip mining facility near Kentucky Lake in West Tennessee's Henry County. He expressed concern over the possible effects that the strip mining might have on the lake especially, claiming that the lake "is critically important to Tennessee for its recreational facilities, and anything that might detract from its recreational value must be carefully examined." Brock asked that the TVA, the Bureau of Outdoor Recreation, and the Fish and Wildlife Service all participate in preparing the statement.[25] The slew of regulatory agencies that represented waste and inefficiency in theory became, in the case of Kentucky Lake, the guarantors of thorough analysis and action. Republicans were able to cast negative aspersions on the abstract idea of regulation, while supporting it in specific, visible cases when it was politically prudent to do so. This obfuscation would allow the GOP to turn the energy issue into a powerful political weapon for use against Carter.

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[24] Press Release, 27 February 1974 box 10, folder 5, BB; Excerpt from *Congressional Record – Senate*, 1 August 1975, found in ibid.
[25] Press Release, 18 December 1974, ibid.

Citizen Opposition

Carter enjoyed the usual post-election honeymoon during his first months in office, yet it was not long before his approach alienated some Americans accustomed to cheap and abundant energy. Many made their views known to RNC Chairman Brock in letters that revealed both voters' frustration with Carter's policies and the Republican Party's emerging alternative vision regarding energy and the environment. A member of the Chamber of Commerce in Burley, Idaho, wrote to Brock, for example, in reference to the construction of a coal-fired plant that was stopped because of "a few environmentalists." She castigated environmental regulation as the burden of a few forced upon the many, claiming that "the one thing that burned me up was the fact that a long-haired hippie type environmentalist can walk up and plunk down a $12 filing fee that will stop a multi-million dollar energy construction." She asked Brock what he could do "to get this show on the road, even if we have to breathe coal smoke for awhile, at least we won't be freezing."[26]

Though this woman's cavalier attitude toward the environment was not shared by most Americans, letters written to Brock indicated that the rhetorical strategy of glossing over environmental impact while discussing the virtue of increased energy production was achieving resonance. A woman from Long Island wrote to ask Brock "How, in Heaven's name, can [Carter] suggest that our citizens must sit still for higher taxes on gasoline and other forms of energy in an effort to 'FORCE' conservation and at the same time 'Force' producers and suppliers to forego enough profit so they can increase production which is so badly needed?" Taxes on oil had been implemented to account for its full cost, including not only the price of the direct environmental pollution created by

[26] Agnes Anderson to Bill Brock, 3 February 1977, box 54, folder 11, BB.

its use but also the cost of defending foreign oil fields from security threats. This constituent's letter indicated that the image of regulation as a simple manifestation of governmental coercion was working as intended. Echoing GOP rhetoric back to Brock, she also commented that "It has been the all-out government intervention in every facet of our lives during the last 40 years that has caused the economic and social ills from which we are suffering!"[27]

Many constituents also saw Carter's program as a threat to the middle-class suburban ideal that had emerged in the postwar decades, a standard that included a spacious vehicle for personal use.[28] As a Pennsylvania man commented: "It is demagoguery to imply that a limited group of Americans are selfish, unpatriotic, wasteful citizens who are to be penalized for owning an automobile that can transport four to six people in reasonable comfort and safety." Similarly, a woman from Wisconsin asked "if Mr. Carter is so much for 'women' and 'the family' I'd like him to explain to me why he's trying to get motor companies to make little bitty cars and do away with moderate/big cars." She wanted to know why Carter wanted to eliminate the freedom of choice to buy the size of car "I <u>feel</u> like buying in my future."[29]

Many Americans demanded that policymakers deal with the energy crisis in a way that did not impinge upon their existing standards of living, and Carter's calls to decrease consumption increasingly threatened this expectation. Carter's program was seen by some not as an economic agenda but as an attack on the American way of life

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[27] Marie C. Artale to Bill Brock, 26 May 1977, ibid.
[28] On the relationship of suburban expansion and the rise of environmentalism after World War II see especially Christopher C. Sellers, *Crabgrass Crucible: Suburban Nature and the Rise of Environmentalism in Twentieth-Century America* (Chapel Hill: University of North Carolina Press, 2012).
[29] Robert J. Russell to Bill Brock, 28 April 1977, box 54, folder 13, BB; Cynthia Slack to Bill Brock, 9 March 1977, ibid.

itself. Based on collective social responsibility, his energy philosophy came into conflict with the dominant post-New Deal liberal ethos that emphasized the primacy of citizens as individualized consumers. Though the New Deal had established a vibrant regulatory structure to control the excesses of capitalism, within this framework Americans were encouraged to consume freely in order to keep the economy growing.[30] Carter's calls for sacrifice and self-denial were at odds with the legacy of the New Deal. Recognizing this disjuncture, Brock proclaimed in reply to another correspondent that "the Republican Party has always taken the consumer and individual citizen into account first and for[e]most."[31] The market fundamentalists kept the New Deal's emphasis on consumption while discarding its regulatory impulses, creating a new vision of how society should function.

The letters that were more hostile to Brock's efforts demonstrate the complications inherent in the emerging strategy, especially those coming from self-identified Republicans who distrusted the RNC's claims. A Pennsylvania man wrote Brock declaring that he, a registered Republican, was nonetheless convinced that the energy crisis was real and lasting. The longer this was denied, he claimed, would simply increase the magnitude of the trauma in the future. Readily admitting that his vehicle, a Ford station wagon, was a "luxury" car in terms of gasoline consumption, he suggested that the GOP's rising stars were not acknowledging the new harsh realities of energy consumption. He claimed not to understand the ideological consistency of the party in its

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[30] On the relationship of liberalism to individualized consumption see Kathleen G. Donohue, *Freedom from Want: American Liberalism and the Idea of the Consumer* (Baltimore: The Johns Hopkins University Press, 2003).

[31] Bill Brock to Frank A. Sieverman, 16 September 1977, ibid. Adam Rome's analysis of the wasteful economy of air conditioning and electric heat, on which much of postwar suburbia was constructed, suggests why an ethic of energy conservation was so difficult to achieve in the suburban setting; see *The Bulldozer in the Countryside*, 45-86.

current form, claiming that "a party that is concerned with conservation of our financial resources and preservation of our freedoms" would logically also be concerned with conservation of natural resources as well. Finally, he claimed to support Carter's plans and even argued that they did not go far enough. He ended his letter with a call for bipartisan efforts to ease readjustment to future realities. Brock's reply was a short, generic letter pointing to "differences in method" between Democrats and Republicans and criticizing regulation in general. It did not respond to the specific critiques of the letter.[32]

A letter to Brock from a professor at the University of Massachusetts was even more scathing. He characterized as "cruel hoaxes" the rhetorical tropes of increased production and energy independence. He claimed that, while sounding pleasant in theory, they were unrealistic in light of the "waste and disregard" of American consumption habits. Brock's indignant reply to this missive claimed that conservation, while fine and necessary, was "naïve and sheer stalling" on its own. "[W]hat in the dickens are we going to conserve if the means to become independent of the oil cartel are ignored," asked Brock. Curiously, while listing potential new sources of energy, alongside coal liquefaction and gasification, shale investment, offshore oil and gas development, Brock mentioned "common sense approaches" to strip mining. Brock gave little indication of what these approaches might encompass, especially curious in light of his earlier concern with strip mining's environmental effects in his home state.[33] Brock's responses to these correspondents showed that he and his political allies were largely avoiding the question

[32] Donald E. Dorn to Bill Brock, 15 May 1977, box 54, folder 11, BB; Bill Brock to Donald E. Dorn, 6 June 1977, ibid.
[33] Joseph S. Larson to Bill Brock, 26 May 1977, box 54, folder 12, BB; Bill Brock to Joseph S. Larson, 15 July 1977, ibid.

of what trade-offs would be made in terms of production and environmental protection. They made a calculated gamble that this omission, given the readily-apparent broad consumer anger, would not matter.

Though not often considered a prominent member of the Reaganite political vanguard – likely because he never again held public office after losing his 1976 re-election bid – Brock had extolled supply-side economics and castigated Nixon's oil price controls quite early, long before most national Republicans. In June 1973, before the first oil crisis and while still a Senator, Brock had asked listeners to "Imagine, in a time of critical shortage and immense demand, it not being worth anyone's while to increase the supply. But that's what has happened. The Government has so over-regulated and stifled private initiative that what should be boom-time conditions look more like an era of oversupply."[34] Brock brought his skepticism of government to his new job crafting the party's public messaging.

More importantly, Brock's role as RNC Chairman required him to act as conciliator among different factions within his party, and his rather striking adherence to and cheerleading for deregulatory ideas thus demonstrate how markedly that ideology was gaining favor within the Republican Party. It had only been a few years before that President Richard Nixon had established the Environmental Protection Agency and the Occupational Safety and Health Administration with the broad support of his own party. The rapidly rising influence of deregulatory economic ideas within the GOP's public messaging showed just how significantly market fundamentalists' views of the primacy

[34] "The Energy Crisis: Remarks by Senator Bill Brock," 18 June 1973, box 17, folder 97, BB.

of individual consumer decisions and the perniciousness of government regulation were coming to pervade the party's self-presentation.[35]

The Iranian Revolution

If Carter's initial focus on energy made slight ripples in public engagement with the issue, the geopolitical crisis that developed later in his administration generated a shockwave. Events through the course of late 1978 and early 1979 again brought energy back into focus as an important national policy issue just as viscerally as in 1973. In late 1970s Iran, rampant inflation squeezed the citizenry. The ruling Shah's too-rapid and too-eager push for modernization led to Tehran streets perpetually jammed with traffic, a broken electric grid and blackouts, and an overwhelmed railway system. Although opposition to the Shah ranged across the ideological spectrum within Iran, the Ayatollah Khomeini, a politically active fundamentalist who preached the idea of an Islamic Republic under the clergy's strict supervision, emerged as the chief opponent to the Shah's programs. His hatred for the Shah was matched only by rage at the United States, which he regarded as the entity responsible for propping up the Shah's rule. During the first half of 1978, attacks on fundamentalist demonstrators protesting the Shah only served to increase the ranks of those hostile to him. Early September protests in Tehran

[35] In the late 1970s, business interests including the Business Roundtable and the American Enterprise Institute aggressively pushed a cost-benefit argument about environmental regulations purporting to show that they were undue burdens on economic growth. Such reasoning found wide and warm reception among Republicans, especially Reagan, and helped move the party away from its Nixon-era affinity for environmental protection. See Meg Jacobs, "The Politics of Environmental Regulation: Business-Government Regulations in the 1970s and Beyond," in Kim Phillips-Fein and Julian Zelizer, eds., *What's Good for Business: Business in American Politics since World War II* (New York: Oxford University Press, 2012), 212-32.

served as a key turning point, with the burgeoning unrest growing rapidly afterward. By October strikes and demonstrations paralyzed the country.[36]

As the second-largest exporter of oil next to Saudi Arabia, with production of 4.5 million barrels for export per day, Iran's internal unrest dramatically impacted the world's oil economy. Meanwhile, the Carter administration's Iran foreign policy was in disarray, having been preoccupied with the Camp David accords, arms negotiations with the Soviets, and normalizing relations with China. As the scales of influence within Iran continued to tip in Khomeini's favor, a task force from the Oil Service Company began preparing an evacuation plan for expatriate oil men and their families at The Fields, Iran's main oil production area. In the middle of December, evacuations began hastily, and petroleum exports from the country had stopped completely by Christmas Day. The revolution in Iran caused a second oil shock and worldwide panic as the uncertainty and instability spurred an upward price spiral. Gas station lines spread again across the United States. In the summer of 1979 they turned violent as consumers reached greater and greater levels of desperation. The nightmare of 1973 appeared to be repeating itself. Rising oil prices and the subsequent ballooning profits accrued by oil companies – from July to September, Exxon became the first corporation to ever earn a billion-dollar quarter profit – infuriated consumers just as badly as during the 1973 crisis.[37]

The crisis in Iran again raised the possibility of decontrol, with proponents arguing that this second oil shock demanded a drastic response. No longer could the US, they said, afford to delay taking action. The OPEC nations would continue to dominate the American consumer indefinitely unless the US could put itself on a firmer energy

[36] Daniel Yergin, *The Prize: The Epic Quest for Oil, Money, and Power* (New York: Simon and Schuster, 1991), 674-78.
[37] Ibid.

footing. Recognizing the gravity of the situation, politicians opposed to decontrol reacted quickly to head off the burgeoning talk. In January 1979, potential primary challenger Senator Edward Kennedy (D-MA) gave a speech in New England condemning potential oil decontrol. The senator claimed to favor decontrol in a "free" market, but argued that oil was presently sold in a market "controlled by OPEC," necessitating continued price regulation. Decontrol, he added, would mean a doubled average barrel price in the span of less than a year, which would be "nothing short of disastrous" for the New England states, which relied heavily on oil to heat homes and businesses during frigid winters.[38]

He then moved from regional concerns to a broader indictment of the current administration. Three successive presidencies, including Carter's, he said, had done "nothing" to challenge the hegemony of OPEC. Instead, US leaders had foolishly encouraged the popular belief that the world was running out of oil and thus justified higher prices, a misguided strategy that merely "play[ed] into OPEC's hand." Kennedy proposed the creation of a world oil exploration fund, which would cost the federal government about $33 million per year. The senator predicted that such a fund would add as many of four billion barrels of oil every year to the world oil supply.[39] The senator did little to explain how this fund would galvanize oil discoveries in a different or better way than the profit motive of private oil companies. Carter's aides were keeping files on the Massachusetts senator's public statements in anticipation of a primary challenge, and Kennedy's vague and easy promises of cheaper oil irked the president's staff.[40]

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[38] "Restoring Competition to Energy" – An Address by Senator Edward M. Kennedy Before the New England Broadcasters Association," found in box 98, folder 6, CSC.
[39] Ibid.
[40] The Office of the Chief of Staff files at the Jimmy Carter Presidential Library contain complied newspaper articles about Kennedy's stances on various issues prior to and during his primary campaign against Carter, which Carter's staff used to formulate campaign strategy.

The Windfall Profits Tax

The senator's strong words notwithstanding, in April 1979 Carter delivered a major energy speech announcing his intention to initiate a gradual decontrol of oil prices beginning in June and ending in late 1981. Carter decided not to decontrol prices immediately, reasoning that during a time of double-digit inflation, such an abrupt change would further depress the struggling US economy. The administration also ruled out both gasoline rationing or mandated Sunday closings of service stations. The phased decontrol was to be coupled with a "windfall profits" tax to keep oil company profits from ballooning simply because of a change in government policy. The windfall profits tax was in fact not a tax on profits themselves, but an excise tax on every barrel of oil pumped from the ground. Though Carter did not oppose oil company acquisitions of other energy producers, he was worried that they would use their increased profits to acquire non-energy businesses like hotels and department stores. The president was determined to ensure that the money be used for reinvestment into further energy development, chiefly new alternative technologies and sources. The windfall profits tax would take a portion of the decontrolled revenues and put it toward federal investment in alternative programs.[41]

Interest groups lined up on various sides of the debate. Activist environmental groups, including the Sierra Club, supported decontrol, reasoning that the higher prices would force Americans to use oil more sparingly, ultimately improving the environment.

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[41] Yergin, *The Prize*, 693; Note from Eliot Cutler to Secretary Duncan, Secretary Miller, Ham Jordan, Frank Moore, Jerry Rafshoon, and Jody Powell, undated, box 45, folder 3, CSC; Memorandum for the President from Stu Eizenstat, 12 July 1979, box 259, folder Oil Company Mergers [CF, O/A 729], Domestic Policy Staff – Stuart Eizenstat's Subject Files, Jimmy Carter Presidential Library. Gerald Ford had also proposed a windfall profits tax when he pushed for oil decontrol, but as decontrol itself dominated political debate and Ford was unable to get it through Congress, the windfall profits tax was a relatively minor issue.

They tended to favor a tax on oil company profits and urged that the money be rebated to consumers, especially those with fixed or low incomes. Although conservative Republicans as well as some Democrats from oil-producing states supported oil decontrol as a way to incentivize domestic oil production, they were infuriated by the tax, arguing that oil companies were being unjustly blamed for the consequences of over-regulation. Lines at gasoline stations had been caused by price controls in the first place, they said, and punishing oil companies for no real reason was thus unfair. They deemed the windfall tax excessive, claiming that the increased corporate income tax payments resulting from decontrol would be sufficient to pay for the proposed programs for alternative fuel research, low-income energy assistance, and mass transit.[42]

Consumer advocacy groups firmly opposed decontrol, pointing to the increased prices that would result. They especially castigated the effect decontrol would have on low-income consumers with little leeway for a higher cost of living, arguing that windfall profits rebates would be insufficient to offset the increased daily expenses. They were supported in their analysis by a Congressional Budget Office report asserting that the president's plan would exacerbate both inflation and unemployment while failing to catalyze the amount of oil production that the administration predicted. A June meeting between the president and twenty-seven consumer advocates reportedly turned "argumentative," with former Johnson administration consumer affairs assistant Betty Furness commenting that she had "never heard anyone talk to [LBJ] the way they talked"

[42] *Wall Street Journal*, 21 March 1979

to Carter.[43] Representative Edward Markey (D-MA) adopted consumer critiques, joining Senator Kennedy to criticize decontrol for its projected effects on New England.[44]

Consumer groups and New Englanders were not the only factions to oppose decontrol. Senator Henry Jackson (D-WA), chairman of the Energy Committee, also expressed his opposition, citing the "nearly out of control inflation" that decontrol would only exacerbate. He also acknowledged that he was in for an "uphill fight" since Carter possessed broad executive authority on the issue of prices.[45] The AFL-CIO, while supporting the "thrust" of Carter's energy security program, opposed decontrol for the effect that it would have on the purchasing power of the working class. Lane Kirkland, the organization's secretary-treasurer, warned that pursuing decontrol would be deleterious for the already-strained relationship between the administration and organized labor.[46] The AFL-CIO called for nationalizing the oil companies, never a realistic solution. In what must have worried a Democratic president concerned about a primary challenge, the AFL-CIO coupled its opposition to decontrol with support for Kennedy's comprehensive national health care program.[47]

Carter had rarely been concerned about the public outcries of any particular moment and had pursued whatever policy he thought was in the long-term national

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[43] *Los Angeles Times*, 3 June 1979.
[44] *Washington Post*, 2 June 1979; *Los Angeles Times*, 3 June 1979; *Christian Science Monitor*, 16 May 1979. The CBO report in question estimated that decontrol would spur production of an additional 405,000 barrels of oil per day, while the administration's estimates put the figure much higher, at 950,000 to 1.1 million barrels a day. See *Chicago Tribune*, 24 May 1979. In May, the House Democratic caucus voted 138 to 69 in favor of a resolution opposing the decontrol plan. Press Secretary Jody Powell responded by claiming that Carter had been forced into supporting decontrol because of congressional inaction on Carter's other energy proposals. See *Washington Post*, 25 May 1979.
[45] *Wall Street Journal*, 9 April 1979; *Washington Post*, 11 April 1979.
[46] On the uneasy relationship between the Carter administration and organized labor see Taylor Dark, "Organized Labor and the Carter Administration: The Origins of Conflict," in Herbert D. Rosenbaum and Alexej Ugrinsky, eds., *The Presidency and Domestic Policies of Jimmy Carter* (Westport, Conn.: Greenwood Press, 1994), 761-82.
[47] *Wall Street Journal*, 7 August 1979.

interest. This situation was no exception. The multifaceted and myriad protestations of interest groups indeed did little to alter Carter's mindset, and he pressed ahead with the gradual decontrol plan alongside the windfall profits tax. While consumer groups and New England politicians hammered Carter and strongly advocated keeping the controls in place, Carter faced criticism of an entirely different sort from his own Energy Secretary. Schlesinger favored immediate decontrol, which he said would allow the price mechanism to bring supply and demand into equilibrium immediately. Though this would generate higher electricity and gasoline bills for consumers in the immediate future, Schlesinger argued, it would be a wise move because of the high possibility of future energy shocks. Schlesinger pointed to the gasoline lines that cropped up around the country in summer 1979, arguing that phased decontrol was failing to prevent crisis. In August he reiterated his position to Carter and urged decontrol immediately before "frustrating delays and political fall-out of likely gasoline shortages" next summer in 1980. Carter rejected this advice, keeping the phased decontrol plan in place. Though Carter was able to institute the phased decontrol by executive order, it took until November to shepherd the windfall profits tax through Congress against the opposition of oil-state Democrats and conservative Republicans.[48]

Carter's 1979 and 1980 initiatives also contained a group of other ideas designed to increase energy supplies. To spur development, the federal Energy Security Corporation (later renamed the Synthetic Fuels Corporation) would make billions in

[48] Memorandum for John Shenefield from Stuart E. Eizenstat, 8 August 1979, box FG-143, folder 7/1/79-8/31/79, White House Central Files (hereafter WHCF), Jimmy Carter Presidential Library; Memorandum for the President from Jim Schlesinger, 23 August 1979, ibid; "Energy: Embarrassment of Riches," *Time*, 5 November 1979. In contrast to Schlesinger, Alfred Kahn, Carter's chief adviser on inflation, backed the gradual decontrol plan so that price levels would not drastically increase immediately; see *Los Angeles Times*, 7 April 1979.

investment incentives available to the private sector to produce liquids and gases from coal, biomass, peat, and oil shale. A tax credit would induce production of gas from basins in the Rocky Mountains, shale in the Appalachian Mountains, aquifers in the Gulf of Mexico, and coal seams across the country. The administration also established the Energy Mobilization Board, which could require quicker decisions on permit applications and ignore local environmental standards. This particular idea drew not only the ire of environmentalists, but also state and municipal governments, which resented this encroachment on their own authority. It also antagonized some conservatives in Congress who saw it as a violation of the principle of states' rights. Members of Congress representing these diverse interests abolished the Board in June 1980. Nonetheless, responding to consumer demands to remedy the dire energy situation, these initiatives were much more oriented toward production than had been the conservation-centric National Energy Plan in 1977.[49]

The Oil Industry's Response

Unsurprisingly, oil companies were the most vociferous opponents of the windfall tax. W.T. Slick, Jr., the Senior Vice President of Exxon, testified before the Senate Finance Committee that it would hurt prospective energy development. The nation had exhausted all its easily located oil assets, he said, and Congress needed to recognize that future energy projects would have to rely on "extraordinarily large investments, pioneer

[49] Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s* (New Haven: Yale University Press, 2010), 207; Energy Briefing Book 8/79 – Transportation Energy Initiative, box 44, folder 36, CSC, 8-10; Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), 447. The Synthetic Fuels Corporation lasted until 1985, when plummeting world oil prices obviated the need for federal incentives for alternatives to oil.

technology, long lead times, and high risk."[50] The windfall profits tax would drain needed capital from the oil industry, according to Slick, stymying energy development.[51]

Slick pointed to the Prudhoe Bay field on Alaska's North Slope, which was currently under development. The physical terrain there was frozen and hard only during the cold of winter. During the summer months, the ground became wet and unstable, and the cost of building reliable drilling and pipeline infrastructure there was complicated and expensive. Constructing each oil well there cost over three million dollars, Slick said, more than *fifteen times* the cost of an average American well in the lower forty-eight states. Because the "windfall profits" tax was really a flat tax on each barrel pumped out of the ground and did not take into account the wildly varying costs of drilling and exploration in diverse geographical areas, instituting it would be "extremely shortsighted." The oil industry would need larger amounts of capital to undertake ever more difficult projects, Slick claimed, and the tax would hurt the industry's ability to reinvest in future production.[52] Carter discounted this criticism as well, insisting on the

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[50] Testimony before the Senate Finance Committee on H.R. 3919, W.T. Slick, Jr., 12 July 1979, box 527, folder 7, Mike Gravel Papers (hereafter MG), Alaska and Polar Regions Collections, Elmer E. Rasmuson Library, University of Alaska Fairbanks. On oil companies' support for decontrol and opposition to the windfall profits tax, see *Los Angeles Times*, 7 April 1979, 11 April 1979; *New York Times*, 17 July 1979.

[51] One of the oil companies' most fervent defenders in Congress, Senator Russell Long of Louisiana, accused Carter of "calculat[ing] to stir up…hatred and resentment" of the oil companies for political gain, when the most important goal should have been to incentivize increased production. See *Wall Street Journal*, 16 April 1979. According to one biographer, Long denounced the windfall tax in "apocalyptic terms" and assailed the "hapless" administration officials who had the misfortune of appearing in front of his Finance Committee. See Robert Mann, *Legacy to Power: Senator Russell Long of Louisiana* (New York: Paragon House, 1992), 364.

[52] Testimony before the Senate Finance Committee on H.R. 3919, W.T. Slick, Jr., 12 July 1979, box 527, folder 7, MG. On the engineering and logistical challenges presented by the Alaska pipeline construction see Peter A. Coates, *The Trans-Alaska Pipeline Controversy: Technology, Conservation, and the Frontier* (Bethlehem, Penn.: Lehigh University Press, 1991). Marathon Oil Company's CEO and President, Harold D. Hoopman concurred with Slick's analysis in his own testimony to Congress. While the oil industry's expenditures in exploration and production had averaged about $20 billion per year in recent years, Hoopman said, the decreasing availability of easy oil reserves meant that expenditures would have to climb to $40 billion annually over the next several years to maintain production. (Hoopman was using constant 1978 dollar figures for both calculations, meaning that necessary expenditures per year would, according to

necessity of the tax. Because of the broad public disdain for oil companies resulting from their massive profits during this second oil crisis, the president worried little about the industry's hostile response.

As the crisis in Iran worsened, policymakers and the public turned their attention to the south. Mexico was in the midst of a fossil-fuel energy boom. A "sea of oil" in the southeast of the country containing 16 billion barrels of proved reserves (with another 14 billion probable) created a "euphoric outlook" in Mexico. Furthermore, Mexico had ample supplies of natural gas, easily substitutable for oil in heating homes.[53] Carter endured intense accusation from the press and other politicians that he was moving too slowly to secure energy supplies from the US's southern neighbor. Governor Jerry Brown (D-CA) castigated the president for stalling negotiations with Mexico.[54] Domestic policy adviser Stuart Eizenstat wrote to Carter to warn that the administration was getting on the "wrong side" of the public and urged him to strike a more optimistic tone. Carter also faced renewed criticism from within his own party. Members of the Democratic Steering Committee, Eizenstat reported dutifully to the president, had expressed amazement that Carter would turn a "cool shoulder" to the abundance of natural gas and oil right at the border while OPEC prices were rising and Iranian exports were being closed off.[55]

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him, quickly double.) See Statement of Harold D. Hoopman before the Senate Finance Committee, box 528, folder 1, MG.

[53] *Los Angeles Times*, 11 June 1978. The Mexican government's estimates of its oil reserves would become an object of dispute a year later amid analyst accusations of gross overestimation; see *Los Angeles Times*, 18 May 1979.

[54] Ibid, 7 February 1979. There is much evidence that Brown may have had ulterior motives for his criticism; one of the governor's top money raisers proclaimed the "80% chance" that Brown would enter the Democratic primary against Carter in 1980. Brown eventually entered the race but his candidacy quickly stalled out, as Senator Edward Kennedy was firmly positioned as the most prominent alternative to Carter in the Democratic Party.

[55] Memorandum from Stu Eizenstat to the President, 27 January 1979, box FG 143, folder 1/1/79-3/31/79, WHCF.

Carter had good reason to move slowly on Mexican fossil fuels. Mexican president José López Portillo had sought to embarrass Carter personally, lecturing Carter at a state lunch in Mexico and implying that the US might be seeking to deceive Mexico in prospective energy dealings. That Carter might react unfavorably to such action is unsurprising.[56] There was also the more important issue of price. High-level delegations from a reported nineteen countries had made their way Mexico seeking to buy oil and natural gas or sell equipment and technology. The Mexicans sought to leverage the wide demand for its resources into a favorable sale price to the US and reportedly were "prepared to flare their gas rather than sell it at lower prices." Wary of the long historical legacy of exploitation of Mexican natural resources by the US, the Mexicans were determined to hold the line against US pressure and receive competitive pricing.[57]

The Americans had little choice but to compromise, with US public opinion demanding that the Carter administration do more to secure energy supplies from the neighbor to the south. Mexico finally negotiated agreements with the US, France, Canada, and Spain, and also replaced Iran as one of Israel's major suppliers. The

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[56] *Los Angeles Times*, 16 February 1979.

[57] *Los Angeles Times*, 11 February 1979; *Globe and Mail* (Toronto), 11 June 1979. On US exploitation of Mexican land and resources in the late nineteenth century, which generated long-lasting animus, see John Mason Hart, *Revolutionary Mexico: The Coming and Process of the Mexican Revolution* (Berkeley and Los Angeles: University of California Press, 1987), 181-85. The Mexican Revolution of the 1910s brought immense resistance to US and European companies' domination of Mexican oil (as well as US and European racism in labor practices). The Mexican Constitution of 1917 declared that underground resources belonged not to those who owned the land above but to the state. Mexico declared in the face of oil company protests that it had always owned the "subsoil" and that what US and European companies possessed were concessions granted by fiat of the state. The Mexican government did not become overtly hostile in the years immediately following the Revolution, as it needed the companies' expertise in developing and marketing petroleum. In 1938, however, President Lázaro Cárdenas, a former general and a politically-radical nationalist, took over the domestic oil industry. The British government insisted that its companies' properties be returned, and Mexico responded by severing diplomatic ties with Britain. A similar break with the US was averted through intense attention from President Franklin Roosevelt, owing to Roosevelt's fear of encouraging the growing relationship between Mexico and Nazi Germany. See Yergin, *The Prize*, 271-77. On the exploitative labor practices of US and British companies toward Mexican workers see especially Myrna Santiago, *The Ecology of Oil: Environment, Labor, and the Mexican Revolution, 1900-1938* (New York: Cambridge University Press, 2006).

agreements largely saw Mexico selling its resources at OPEC prices.[58] The relief as Mexican oil began to flow soon dissipated. By May, Mexico had fallen behind in its commitments to export oil. Largely due to bottlenecks at seaports and lags in pipeline construction, Mexico reduced deliveries to some of its buyers by up to 40 percent. One New York-based petroleum analyst sought to tamp down the fervor and cautioned that, even if Mexican oil was flowing at full capacity, it would still not be enough to make up for the shortfall created by the Iranian Revolution.[59] Mexican oil would not cure the US energy crunch. OPEC would still remain at the top of the list of problems to address.

OPEC and especially Iran still represented big problems indeed. Returning from a summer 1979 economic summit in Tokyo, Carter found his job performance and personal favorability ratings both miserable. He arranged with the networks to deliver a major address on the energy crisis on July 5, but suddenly canceled just two days before the planned speech. At the urging of his personal pollster Pat Caddell, Carter decided to withdraw to Camp David and gathered a number of intellectuals and social commentators to reflect on the state of the nation. The new speech retreated to familiar tropes mobilized by Carter in the past. Delivered on July 15, it addressed not just rampant energy use but broader moral and spiritual issues that the president deemed important. Carter decried what he saw as growing materialism, disrespect for government and authority, and the preference for self-interest over common values. Early reaction to the speech from both the press and the public was somewhat favorable.[60]

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[58] *Washington Post*, 19 May 1979. On President López Portillo's ambitious mobilization of Mexican oil, which saw the country become "one of the most active borrowers in the world" in pursuit of investment capital, see Yergin, *The Prize*, 664-67.
[59] Ibid.
[60] Wilentz, *The Age of Reagan*, 96-98; "Nation: Still Looking for a Leader," *Time*, 10 September 1979. For a favorable historical assessment of this speech, see Kevin Mattson, *"What the Heck Are You Up To, Mr. President?"*: *Jimmy Carter, America's "Malaise," and the Speech That Should Have Changed the Country*

But as its content began to sink in, Carter increasingly appeared as the sounding board for the "disorienting conditions" that had caused many Americans to seek new political leadership in the first place. Two days after the speech, Carter asked all of his cabinet secretaries for resignation letters. Although claiming to seek a "fresh start" and inspire renewed confidence in his administration, the move instead made the president look panicked and desperate. Much of the public seemed to wonder whether Carter was competent enough to handle any problem at all. In September, only thirteen percent of Americans expressed significant confidence in Carter's ability to handle the energy problem, with only ten percent feeling the same about his ability to handle the economy.[61] And, on November 4, when sixty-three Americans were taken hostage by revolutionaries at the US embassy in Tehran and American newscasts covered their captivity on a nightly basis, things only got worse for the president.[62]

Carter and Kennedy

Carter wanted to make it "very clear" that the issue of oil supplies would not be allowed to weaken the US stand on freeing the Americans held hostage in Iran and drew a hard line. On November 13 he banned the importation of any crude oil produced in the country.[63] Soon afterward, Senator Kennedy, who had announced his presidential

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(New York: Bloomsbury, 2009). For a more dismissive view, see Bruce Schulman, *The Seventies: The Great Shift in American Culture, Society, and Politics* (New York: The Free Press, 2001), 140-43.

[61] Wilentz, *The Age of Reagan*, 96-98.

[62] Though the hostage crisis generated an initial groundswell of renewed support for Carter, it quickly dissipated as the crisis wore on with no solution in sight. Melani McAlister argues that the unrelenting nightly coverage of the hostage crisis made it seem as if the nation itself was under attack, which Carter seemed powerless to counteract. See *Epic Encounters: Culture, Media, and U.S. Interests in the Middle East, 1945-2000* (Berkeley and Los Angeles: University of California Press, 2001), 202-16.

[63] "Questions and Answers Concerning Iranian Oil Imports," 13 November 1979, box 249, folder Oil Import Quota [CF, O/A 729], Domestic Policy Staff – Stuart Eizenstat's Subject Files, Jimmy Carter Presidential Library.

candidacy on November 7, again took the opportunity to castigate Carter on the decontrol policy.[64] Though "proclaiming his unity" with Carter on the Iran hostage issue, he deplored the "enormous giveaway over the coming decade, extracted from consumers" for the benefit of corporations. He attacked the administration for lifting controls before having the windfalls profits plan in place, implying that they should have been instituted simultaneously if they were to be done at all. Kennedy then outlined his own plan, which included loans to businesses and consumers to install energy-saving equipment, increasing strategic petroleum reserves, and developing more comprehensive government plans to distribute oil during an emergency situation. Reaffirming his emphasis on Mexican fossil fuel supplies, he also proposed creating a "Northern Hemisphere energy alliance" to decrease dependence on foreign oil.[65] Carter and Jerry Brown expressed support for the same general idea.[66]

In the primary campaign of 1980, Carter and Kennedy skirmished throughout the spring. The president entered the Democratic National Convention with a solid majority (60 percent) of the delegates pledged to him, but Kennedy still refused to drop out, hoping that Carter's weakened public image might inspire some delegates to switch their allegiances on the convention floor. The incumbent had won several key primary contests in the early spring, but late April had brought disaster. On April 24, Carter launched Operation Eagle Claw, a daring helicopter mission meant to rescue the hostages in

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[64] On the background of Kennedy's entry into the race see especially Timothy Stanley, *Kennedy vs. Carter: The 1980 Battle for the Democratic Party's Soul* (Lawrence: University Press of Kansas, 2010), 6-8.
[65] *Los Angeles Times*, 22 November 1979.
[66] *Christian Science Monitor*, 5 June 1980. The leaders of Canada and Mexico were firmly against such a plan, arguing that it would disproportionately benefit the US. Since Canada and Mexico would primarily be providing oil and natural gas, they feared that the plan would compel the two nations to provide the US with discounted raw materials to subsidize America's own domestic economic development and consumer economy. Mexico's President Portillo, in particular, claimed that a continental common market would "entrench existing economic disparities" and imperil Mexico's "sovereign ability to decide on the application of its economic policies." See *Christian Science Monitor*, 5 June 1980.

Tehran. Several of the helicopters encountered mechanical problems while flying in the desert sand, and as the aircraft were in the process of aborting the mission, one of the helicopters crashed into a transport vehicle, resulting in the deaths of eight American servicemen. The Iranians then scattered the hostages across Iran, making another such rescue attempt impossible. The resulting blow to Carter's perceived competence spelled grave consequences for the incumbent.[67]

Kennedy entered the convention believing that he had a strong chance of changing the minds of enough delegates to win the nomination. But the senator underestimated the difficulty of ousting an incumbent president at a party's central gathering and was unable to mount a serious challenge to Carter's delegate lead. After a floor fight ended with the incumbent re-nominated, Kennedy delivered a speech that was passionate in support of liberal principles but half-hearted in support of Carter, leading to an awkward moment between the two at the end of Kennedy's address to the convention. The encounter between the two on stage after Carter's own nomination acceptance speech was even more uncomfortable.[68]

But if Carter slipped by Kennedy's challenge, he ran into a brick wall against the Republican nominee Reagan. Operation Eagle Claw and its aftermath may not have been enough to propel Kennedy over Carter for the Democratic Party's presidential nomination, but the ongoing sense of crisis was more than enough to tarnish the president in the eyes of the general electorate. Carter's inability to solve the Iran hostage crisis, the

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[67] On Operation Eagle Claw see Richard H. Immerman, *The Hidden Hand: A Brief History of the CIA* (Chichester, West Sussex, UK and Malden, Mass.: Wiley Blackwell, 2014), 122-24. Kennedy won primaries in Illinois, New Mexico, Pennsylvania, and California, but these victories were not enough to overcome Carter's early victories. On the chronology of primary contests between Carter and Kennedy see Stanley, *Kennedy vs. Carter*, 132-57.

[68] On Kennedy's convention speech and his awkward encounters with Carter see Stanley, *Kennedy vs. Carter*, 166-69.

persistence of high energy prices, and a pervasive sense of general pessimism about the country's future combined to produce a landslide win for the former California governor, who received 489 electoral votes to the president's 49. John Anderson (I-IL), also on the ballot, earned 0 electoral votes.

Reagan and Accelerated Decontrol

Reagan's ascent to office changed the tone of decontrol opponents. Though Carter had advocated decontrol as a way to increase oil prices and wean the nation off of its use, Reagan's support for decontrol was a piece of his larger ideological opposition to government regulation. Instead of supporting decontrol to force consumers to use much less oil, he favored the policy – as did the congressional conservatives of Carter's time – to incentivize the private sector to produce much more of it. He had made his views very clear during the 1980 campaign, claiming that there had been no energy problem "from the days of the horseless carriage until" Nixon's imposition of price controls in 1971. With questionable logic and little supporting evidence, Reagan boldly asserted that decontrol would end the necessity of Middle Eastern oil imports entirely.[69]

While Carter had been somewhat willing to oppose members of his own party in Congress – and with the windfall profits tax moderating liberal Democratic criticisms – Reagan unsurprisingly cared almost nothing about congressional Democrats' viewpoint. Given the decisiveness of the election outcome and the surety which with Reagan

[69] Reagan quoted in Elizabeth Drew, *Portrait of an Election: The 1980 Presidential Campaign* (New York: Simon and Schuster, 1981), 114. According to Drew, the American Petroleum Institute had recently estimated that if all potential oil in the US (including onshore, offshore, and in Alaska) were recovered, domestic production would increase by a maximum of four million barrels a day. Drew noted that the US was currently importing eight million barrels a day. The four million barrel per day discrepancy led to her skepticism for Reagan's claims.

believed in the power of private enterprise, the new president was guaranteed to pursue his own agenda regardless of how loudly Democrats in Congress protested. Recognizing the implications of the change in the Oval Office's occupant, Representative Markey now asked that decontrol merely be slowed. "The train for decontrol has long left the station," he conceded in an op-ed in the *New York Times*, and the argument now "is not whether we control the price of domestic oil, but how fast we accelerate the train." In a nation already "reeling from inflation and recession," decontrol should be delayed, Markey argued, until a more appropriate time. Failing to slow decontrol risked forcing companies to increase prices of consumer goods to make up for the increased cost of the oil input, thus "risking economic paralysis" in exchange for "dubious benefits" from decontrol.[70]

Reagan's administration paid little attention to the congressman's requests. The new leaders in Washington turned out to be even more zealous than oil companies themselves in pushing for decontrol. Though James B. Edwards, the president-elect's designate for Energy Secretary, claimed that immediate decontrol of oil prices in January 1981 would mean "a lot more production," oil company executives disagreed. The price controls were already set to expire on October 1, and one oil company chief financial officer noted that his company was already "drilling about as fast as we can" and would not be affected by immediate decontrol. Mesa Petroleum chairman T. Boone Pickens added that his company already had all the drilling rigs working that were available. In fact, not only would immediate decontrol not significantly help oil companies, but the main beneficiary, they said, would be the federal government, which stood to collect an additional $9 billion under the windfall profits tax if decontrol was completed immediately. Executives speculated that part of the administration's impetus for

[70] *New York Times*, 9 January 1981.

immediate decontrol was that the extra revenue would assist Reagan in carrying out his promise of a 10 percent income tax cut. The oil industry asked that the new administration shift its priority from immediate decontrol to freeing more federal lands for oil exploration and simplifying drilling regulations. Reagan did this too.[71]

Surprisingly joining the Reagan administration in highlighting the benefits of immediate decontrol were Robert Stobaugh and Daniel Yergin, two faculty members at the Harvard Business School, who outlined their views in January columns in the *New York Times* and the *Boston Globe*. Certainly not as dedicated to increased domestic oil production as Reagan's staff, their support for immediate decontrol lay instead with the effect it would have on dampening consumption. Under most assumptions, they reasoned, US petroleum prices would be the same, with or without immediate decontrol, after the October 1 deadline. However, they said, immediate decontrol would in fact likely help reduce US imports during the interim period, which would ease some of the inflationary pressures on the world oil market, which would in turn reduce the likelihood of a continued increase in world oil prices.[72]

In other words, they argued, "the US consumer would be facing the alternative of paying somewhat more now, or paying a good deal more later." While pointing to the long-term benefits of immediate decontrol, they warned that the Reagan administration would need to carefully assist American consumers in making the transition, proposing expanded programs to make capital available for conservation investments. "Thus, even as prices go up," they said, "their effects can be offset through increased efficiency that

[71] *Los Angeles Times*, 14 January 1981.
[72] *New York Times*, 18 January 1981; *Boston Globe*, 18 January 1981.

results in less consumption."[73] But Reagan's affinity for decontrol had nothing to do with conservation. It was a smaller piece of his larger ideological commitment to freeing the private sector from government control. Stobaugh and Yergin later criticized Reagan for ignoring conservation and solar energy potential, though Reagan had never given any indication that he intended to pursue these routes.[74]

On January 27, Reagan's director-designate of the Office of Management and Budget, former congressman David Stockman, indicated that a decision to lift the remaining controls immediately was "fairly imminent." Previous assumptions had turned on the possibility of an executive order to decontrol prices, but it was now likely Reagan would also send a bill to Congress to address the "legally gray areas" of refiners' entitlements and the petroleum allocation system. The entitlement system subsidized small refiners by guaranteeing oil supplies to them at a price below market levels. Though the new anti-government administration had little sympathy for their federal subsidization, it also recognized that there would have to be some way to shield them from the effects of total decontrol, lest they be immediately wiped out by an inability to compete. The allocation system was designed to share available supplies equitably nationwide; without some sort of transition, more remote areas of the country might find their energy supplies rapidly and drastically cut. With these stipulations in place, Reagan decontrolled oil price completely by executive order mere days after his inauguration, well ahead of Carter's schedule.[75]

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[73] Ibid.
[74] See Robert Stobaugh and Daniel Yergin, eds *Energy Future: Report of the Energy Project at the Harvard Business School*, New Revised Third Edition., (New York: Vintage Books, 1983, orig. 1979), 288, 302.
[75] *New York Times*, 27 January 1981; *Chicago Tribune*, 28 January 1981.

The End of Sacrifice

As the 1973 crisis faded from immediate memory and inexpensive energy returned, much of the American public seemed confused by Carter's rhetorical focus on conservation. Extravagant use of energy and reliance on unstable and hostile nations a world away remained unconnected in the minds of many, a unity of perception that Carter was unable to effect. Americans instead blamed oil company greed or government incompetence, rather than their own consumption habits, for any problems that appeared. After the second price spike in 1979, the nation seemed so disillusioned with Carter that many Americans stopped paying attention altogether. As *Time* reported in January 1980, despite a palpable "sense of urgency" in the nation in the wake of the hostage crisis-inspired energy spike, Carter administration officials began to argue that no new taxes or tariffs were needed to force a decrease in consumption, demonstrating how far the administration had conceded ideological and political ground. Eizenstat indicated that the White House feared that any "bold moves" would cost Carter votes in the upcoming primaries and general election. At every turn, Carter was confronted by voter demands that he solve the nation's problems without impinging upon established patterns of consumption and daily life. He seemed incapable of acting to address an obvious problem.[76]

Sensing an opportunity, the Republican Party sought to gain a political advantage from Carter's missteps. They charged that Carter's plan focused foolishly and needlessly on decreasing consumption. They instead emphasized increased energy production. Certainly, Carter's current plans included a healthy dose of production incentives, including tax credits for production and government support of synthetic fuels. But

[76] "Business: Retreat on the Energy Front," *Time*, 21 January 1980.

although Carter spoke hopefully in Seattle the day before the election about "new technology, new tools, new factories, [and] new industries that many of us have never even dreamed," it was far too late to overturn his image of unmitigated pessimism.[77] The GOP's image of Carter as an incompetent leader unfit for office had taken hold.

There is, of course, no way to know if the Iranian Revolution would have yielded such a devastating blow to Carter's presidency had he not so firmly insisted that conservation and sacrifice would make the US more secure. But the fact that Carter had made energy his foremost domestic priority, and that it had resulted in such disaster, was an impossible obstacle for the incumbent to overcome in the 1980 campaign. The Iranian Revolution and the second oil crisis seemed to prove Carter's wrongness. Though Carter worked to decontrol the price of oil, the process was too meager and too slow to counteract broad public distaste. A more general leveling of government regulation itself now seemed palatable in a way that it had not just a few years before.

Aware of many Americans' ostensible concern with environmental protection, many national Republicans spoke in vague language about "balancing" energy production with respect for the environment. The implication was that responsible market processes would naturally maintain environmental quality without the need for formal, overbearing public statutes. Some of the GOP's most prominent members went even further in downplaying the importance of environmental protection. In his speech accepting the Republican presidential nomination, Ronald Reagan touted domestic production of oil, natural gas, and coal. The nominee told prospective voters to "Make no mistake. We will not permit the safety of our people or our environmental heritage to be

[77] Seattle, Washington: Remarks at a Rally With Area Residents, *Public Papers of the Presidents of the United States: Jimmy Carter: 1980-81*, Book 3 (Washington, DC: Government Printing Office, 1981), 2681.

jeopardized." In a stunning redefinition of the term, however, he added that "we are going to reaffirm that the economic *prosperity* of our people is a fundamental part of our environment." Prominent journalist Elizabeth Drew remarked tersely of the Republicans' standard-bearer that "There is no guide here to what choices he would make." It seemed not to matter. As historian Robert Collins has concluded with regard to debates about economic growth more generally in the stagnant 1970s, "Balance was the key, but just what balance meant remained uncertain."[78] Because most Americans thought of themselves as inherently "environmentally friendly" but often saw the activist environmental movement as radical, the Republican strategy held wide appeal.[79]

Though Reagan had avoided appearing patently anti-environment during the 1980 campaign, his Cabinet selections made his feelings more apparent once in office. Commerce Secretary Malcolm Baldrige, a former manufacturing CEO, released what one historian has called a "hit list" of basic environmental regulations he wanted to eliminate, including restrictions on hazardous waste, air pollution, and the distribution of potential carcinogens. Reagan's energy secretary concluded that the solution to ozone depletion was stronger suntan lotion. Interior Secretary James Watt spent the early 1980s rolling

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[78] Acceptance Speech by Governor Ronald Reagan, 17 July 1980, in Richard Harwood, ed., *The Pursuit of the Presidency 1980* (New York: Berkley Books, 1980), 418-19; Drew, *Portrait of an Election*, 219; Collins, *More*, 136-46. Discussing opinion polls taken in California in 1977 and 1981, political scientist Eric R.A.N. Smith found that, in both years, not only did his subjects lack substantial factual knowledge about energy issues, but they held positions that were not coherent by any reasonable measure. "Our examination of attitude consistency did not reveal any evidence that many people thought about energy issues from a consistently pro-environmental perspective, nor that many people consistently favored development. Instead," Smith notes, "we saw a public in which most people took an almost random mix of pro-environment and pro-development stands." As Smith makes clear, this unsystematic blend of environmental and developmental philosophies was attributable to poor understanding of the issues involved. As he concludes, "Most people apparently value the environment and want to protect it but do not understand what government policies follow from that desire. See *Energy, the Environment, and Public Opinion* (Lanham, MD: Rowman & Littlefield, 2000), 125-26.

[79] On environmentalism after the 1973 oil crisis see Patrick Allitt, *A Climate of Crisis: America in the Age of Environmentalism* (New York: Penguin, 2014), 122-55.

back protection of public lands in the West.[80] Though Reagan was eventually forced to fire Watt and disavow some of his more extreme statements, it was clear that the virtually unconditional acceptance of environmentalism on the first Earth Day in 1970 had yielded to a more ambiguous view. Reagan could not have made such dismissive comments about environmentalism during the 1980 campaign had it been otherwise.[81]

At the 1980 Republican National Convention, candidate Reagan refused to acknowledge that energy shortages had ever existed, instead blaming the country's energy problems on what he deemed Carter's overzealous regulation. That it was Nixon who had instituted price controls on oil, and that Carter who had worked to remove them, seemed irrelevant. The nation was so angry with Carter that it seemed willing to believe any antagonistic statement made about him. Carter's market initiatives paled in comparison to his pessimistic exhortations for sacrifice. The GOP depicted cheap and abundant energy as a fundamental component of citizenship in the postwar nation, and characterized Carter as a hostile figure who threatened this basic right. Although American consumers in the Reagan years actually benefited from some of the conservation programs of the 1970s, like better insulation in their homes and improved gas mileage in their cars, the GOP's emphasis on "balanced growth" seemed to contrast favorably with Carter's conservationist ethos.[82]

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[80] Wilentz, *The Age of Reagan*, 140; Benjamin Kline, *First Along the River: A Brief History of the U.S. Environmental Movement*, Second Edition (Lanham, MD: Rowman & Littlefield, 2000), 102. For a hostile assessment of Reagan's environmental policies, see Hays, *Beauty, Health, and Permanence*, 491-526. On Watt as a "lightning rod" for the environmental movement's opposition to the Reagan administration, see James Morton Turner, "'The Specter of Environmentalism': Wilderness, Environmental Politics, and the Evolution of the New Right," *Journal of American History* 96:1 (2009), 134-36.

[81] On the "antiregulatory storyline" gaining traction in the late 1970s see Judith A. Layzer, *Open for Business: Conservatives' Opposition to Environmental Regulation* (Cambridge: The MIT Press, 2012), 84-90.

[82] David E. Nye, *Consuming Power: A Social History of American Energies* (Camridge: Mass.: The MIT Press, 1998), 235-36.

As Meg Jacobs has argued of the slew of environmental regulations and price controls passed under Nixon, "it was precisely the persistence and, in many ways, the intensification of liberal reform in the 1970s that gave conservatives a ready target to attack." The conservative appeal to get "government off our backs," she claims, gained traction only in this world of growing regulation."[83] But it was not just regulation's expansion that helped turn American sentiment against government intervention in the economy. It was that both environmental regulations and oil price controls seemed to stand in the way of a more secure energy future. The ability of Reagan and the right wing of the GOP to capitalize on these changing sentiments helped bring them into power. The decline of environmentalism, along with bipartisan support for removing price controls, were integral components of the deregulatory, anti-government politics of the late 1970s and early 1980s.[84]

The oil politics of the 1970s were a key piece of environmentalism's diminished political power and the move toward deregulation in the American macro-economy. But at the same time, policymakers moved to enhance domestic production of other energy sources to reduce the nation's dependence on foreign oil. Attempts to reconfigure the American energy economy took place within a pre-existing macro-economy, and policymakers had difficulty aligning and satisfying the conflicting interests holding a stake in energy policy. Furthermore, the incredible complexities of energy infrastructures

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[83] See "The Politics of Environmental Regulation: Business-Government Relations in the 1970s and Beyond," Phillips-Fein and Zelizer, eds., *What's Good for Business*, 212-32.

[84] A number of opinion polls indicated that, by 1980, environmentalism's influence was waning. The percentage of Americans who believed that government had gone "too far" with environmental protection increased from 13 percent to 25 percent from 1973 to 1980. And while 50 percent in 1978 would accept a slower rate of economic growth for the sake of the environment, only two years later the figure was at 27 percent. See Judith Layzer, *Open for Business: Conservatives' Opposition to Environmental Regulation* (Cambridge: The MIT Press, 2012), 80-81.

meant that policy changes had unexpected effects and consequences. The next chapter explores how these processes played out in the arena of coal policy.

Chapter 3: "Rich, black veins": The United Mine Workers, Railroad Deregulation, and the Political Economy of Coal

Still pondering the shock of the 1973 oil crisis, Jimmy Carter sought to put the United States on a firmer long-term energy footing by reducing its dependence on foreign oil. One initiative, the creation of the Department of Energy, was meant to decrease consumer demand by incentivizing conservation. But Carter realized that even given his best efforts, American consumption patterns were not going to change overnight, and some transitional measures were needed. Reflecting this reality, another of the main components of Carter's energy security plan was to encourage American utility companies to convert their equipment to burn coal, which the US could produce in abundance, instead of oil. Though the images of consumers in long lines at gas stations had highlighted the nation's oil problems, in the 1960s low oil prices had catalyzed utilities to burn huge quantities of it.[1] The replacement plan seemed on its face to be a perfectly rational and reasonable strategy, but for a variety of reasons, it proved much more difficult to execute successfully. Environmental regulations passed only a few years before impeded the transition, as did the coal industry's volatile workforce and the nation's crumbling railroads. This chapter examines the political economy of coal in the late 1970s and argues that some of the problems Carter encountered in implementing his energy policy were tied closely to the internal tensions within the nation's systems of energy supply. By focusing on Carter's attempts to replace imported oil with domestic

[1] See Robert Lifset, "Environmentalism and the Electrical Energy Crisis," in Robert Lifset, ed., *American Energy Policy in the 1970s* (Norman: University of Oklahoma Press, 2014), 284-85. As Lifset notes, utility companies turned from coal to oil in the late 1960s and early 1970s to help comply with environmental legislation, as oil burns cleaner than coal. At the very moment of the shift, however, the 1973 oil embargo encouraged a shift back to coal.

coal, this chapter mobilizes political and labor history to examine the Carter administration's energy policy problems.

Encouraging utilities to substitute abundant domestic coal supplies in place of imported oil seemed to be a straightforward and reasonable idea to many contemporary analysts, especially the president. But coal, which is much more carbon-dense than oil, generates significantly more atmospheric pollution, and there was no cost-effective way to allow utilities to convert to coal and simultaneously comply with contemporary clean-air regulations. Coal mining companies also found their costs increased by the expenses associated with black lung disease, the debilitating and deadly malady caused by years of breathing in coal dust. The administration was rather unwilling to compromise on protections for vulnerable miners – in fact, Carter supported even stronger black lung measures in 1978 – but never came to a firm conclusion on how to balance increased coal use with existing environmental and labor regulations, leaving utility and mining companies greatly confused. The administration attempted to increase domestic coal production while maintaining strict environmental protection standards, a virtually impossible task.

The United Mine Workers of America (UMWA) strike of 1977-78 further complicated the Carter administration's plans to achieve energy security. A new labor contract proposed by coal employers would have slowed the growth of workers' wages over the coming years and, more importantly, would have also curbed the union's right to strike in the future. Over a hundred thousand miners walked off the job to protest the contract's objectionable provisions. Though initially reluctant to intervene and poison relations with organized labor, Carter eventually invoked the Taft-Hartley Act to try to

force the miners back to work, an action that no US president had taken against the UMWA in nearly thirty years. Most miners responded by simply ignoring the order, and an association of coal mining companies launched a blistering public relations campaign against the union. The unstable and contentious atmosphere generated by the longest coal strike in US history cast the administration's oil replacement plans into serious doubt. Even when the lengthy and often violent strike was resolved in the spring of 1978, national periodicals pointed to the heightened antipathy between union miners and coal companies as a potential problem going forward.

Coal politics also became deeply intertwined with the economic debates about deregulation in the late 1970s, specifically with regard to railroads. With rampant inflation in the 1970s wreaking havoc throughout American industry, businesses pushed for loosened government control over their daily operations. Railroad owners saw deregulation of their industry as a necessary step that would keep the nation's rail infrastructure from falling deeper into dilapidation. They could no longer afford to break even or even lose money operating unprofitable routes, and sought greater leeway to operate the routes of their choice and to charge more competitive prices. But electrical utility companies opposed deregulation of railroads. They saw deregulation as a giveaway to the rail companies, as deregulation would force utilities to pay more for coal, who would subsequently pass the cost onto irate consumers. There was fierce competition to gain the upper hand in reconciling these two viewpoints into a coherent deregulatory policy. The outcome, which largely deregulated the railroad industry, nonetheless kept coal prices in particular under the control of the Interstate Commerce Commission. This outcome meant that coal prices would remain artificially higher than

the prices that would have prevailed in an unregulated market, again impeding the immediate shift from oil to coal in the short term.

These factors all complicated the Carter administration's ability to deal with the energy issue effectively by obstructing a main thread of the president's energy security plan. Caught between competing interest groups in the private sector, Carter's staff struggled to come up with solutions amenable to all involved, and often settled on resolutions that pleased no one. Focused on the international implications of oil, the administration was ill-equipped to address the domestic facets of coal and oil production and consumption. Understandably worried about what was happening in Iran, Iraq, and Saudi Arabia, the administration paid too little attention to – or was simply unable to handle – the political issues simultaneously playing out in West Virginia, Pennsylvania, and Ohio. Many of the Carter administration's political problems came thus not simply from problems with Congress, but instead emanated from an inability to align the conflicting interests embedded within significant policy changes.

The UMWA strike and the railroad deregulation debate were linked in another profound way. One of the effects of the broad 1980 railroad deregulation law was to catalyze a new wave of railroad mergers, which generated greater coordination and efficiency in the rail industry. Non-union coal from the West, a region that had never unionized to the same extent as West Virginia and Pennsylvania, had not theretofore been cost-effective to ship in large quantities to the eastern US. But with this new railroad integration it became much easier to transport coal inexpensively. The rising availability of non-union coal seriously weakened the UMWA, much more so than Carter's invocation of the Taft-Hartley Act had done. Though Ronald Reagan is often given credit

for implementing deregulatory economic policies and crushing the political strength of organized labor, actions taken during the Carter administration helped make these outcomes possible.

The Confusion over Environmental Regulation

One of Carter's first ideas to achieve energy security was simply to use existing industrial facilities to generate more electricity than was being produced under the status quo. Soon after his inauguration in 1977, Carter launched a plan to introduce financial and other incentives to encourage large industries, such as the chemical and steel sectors, to generate their own electricity. The targets of the plan were large factories already equipped with steam boilers, which are often essential for providing power to factories from within. Carter called for legislation to give these industries tax credits to install equipment to harness the excess energy not needed for industrial production, and would also require utilities to buy the surplus power. Administration energy officials estimated that, within ten years, this industrial cogeneration could reduce US imports by 500,000 to a million barrels of oil per day.[2] With minimal reconversion, large industries could earn additional income by generating needed electricity, creating a win-win situation for all involved. But utility companies were generally skeptical about this plan. They routinely went through periods in which they themselves generated surpluses of power not needed by the public, and worried about the prospect of being forced to buy industry surpluses in times when they could not even sell their own power.

The larger problem with encouraging increased use of coal, though, was the cost of cooperating with the environmental and safety regulations that had recently passed

[2] *Wall Street Journal*, 15 April 1977.

Congress and been signed into law. Some legislation dealt with protections for coal miners. The Federal Coal Mine Health and Safety Act of 1969 – passed in the same surge of safety legislation that established the Occupational Safety and Health Administration – targeted black lung disease, the crippling condition caused by years of breathing coal dust. It required stringent federal inspections of mines several times per year and provided compensation to miners disabled by the disease. The 1972 Black Lung Benefits Act strengthened compensation for black lung victims. In 1978, Carter signed a new Black Lung Benefits Reform Act that allowed more liberal medical eligibility criteria and eased the claims process for working miners and miners' widows.[3]

Other legislation targeted the effects of coal mining on the nation's physical landscape. Responding to eye-opening press accounts of the destructive effects of strip mining, Carter signed the Surface Mining Control and Reclamation Act in 1977, which strengthened the permitting process and required coal companies to post a bond equivalent to the cost of cleaning up a site before mining could begin.[4] Strip mining, a process by which mountaintops are removed for easy access to coal deposits inside, was not only widely criticized for its effect on the aesthetic quality of mountains, but also for the deleterious effect on water quality when debris trickled down mountainsides into waterways below.[5]

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[3] On the origins of the 1969 act see Barbara Ellen Smith, *Digging Our Own Graves: Coal Miners and the Struggle over Black Lung Disease* (Philadelphia: Temple University Press, 1987), 128-39; Alan Derickson, *Black Lung: Anatomy of a Public Health Disaster* (Ithaca: Cornell University Press, 1998), 142-82. On the 1972 act (sometimes denoted as an amendment to the 1969 act) see Smith, 169-74. On the 1978 act see Smith, 199.

[4] For a representative national press account criticizing strip mining see "Environment: Energy Crisis: Are We Running Out?" *Time*, 12 June 1972.

[5] On the passage of this act see Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003), 173-80. Montrie sees the act as flawed in the long term because it relies on the oversight of citizens (who cannot

The cumulative effect of black lung and strip mining laws on the price of coal was not negligible. The Tennessee Valley Authority (TVA), the quasi-public regional utility based in the Southeast, estimated in 1977 that these laws together had increased its cost of purchasing coal by around $7.50 per ton, a significant amount given that the spot price of coal in 1969 had been about $100 per ton. Clean air regulations threatened to increase costs further, and utility executives warned that converting boilers and power plants to use coal instead of oil without relaxing clean air requirements would be impossible.[6] For utility companies, the possible benefits of coal conversion were often overshadowed by the headaches caused by the cost of cooperating with environmental regulations. Coal industry spokesman Carl Bagge warned in 1977, for example, of a coming "collision" between Carter's optimistic coal projections and the demands of environmental protection.[7]

Carter did not budge in the face of the utilities' ire and prodded Congress to proceed with the oil replacement plan. His solution to the regulatory problem was to propose – within the mammoth 1977 National Energy Plan bill – taxes on oil and natural gas that would raise their prices to equal that of the more environmentally expensive coal, which would remove the financial obstacle to power plant conversion. To prevent the

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match coal operators' resources) and because it has been applied inconsistently and ineffectively. Nonetheless, the cleanup costs increased the price of coal in the short term.

[6] *Wall Street Journal*, 15 April 1977; *Christian Science Monitor*, 22 April 1977; Meg Jacobs, "The Politics of Environmental Regulation: Business-Government Relations in the 1970s and Beyond," in Kim Phillips-Fein and Julian Zelizer, eds., *What's Good for Business: Business and American Politics since World War II* (New York: Oxford University Press, 2012), 224.

[7] *Chicago Tribune*, 9 May 1977. In the early 1970s, the soft coal industry had taken an active role in the shaping of the Clean Air Act, pushing for federal standards requiring emission-control technology in order to avoid municipal regulations that would require switching from high- to low-sulfur coal, a regulation they saw as especially onerous. See Richard N.L. Andrews, *Managing the Environment, Managing Ourselves: A History of American Environmental Policy*, Second Edition (New Haven: Yale University Press, 2006; orig. 1999), 209. Pushing legislative policies to require polluters to install improved technology ("technology forcing") was a common environmentalist tactic; see Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), 251.

costs that would inevitably be passed on to consumers from becoming a burden, the administration wanted the revenues from the tax rebated directly to the public. However, the Finance Committee's chairman, Senator Russell Long (D-LA) – a stalwart defender of his state's oil and gas industries – suggested using the money to promote alternative energy resources, including extracting gas and oil from coal, extracting oil from shale deposits, and investing in solar energy. Since Louisiana was a major oil and gas producer, Long preferred an option that would subsidize research and development for these businesses instead of having the revenues confiscated and distributed to consumers. The committee was split on the question, with some siding with the administration and others agreeing with Long, who in turn decided to leave the issue to the Senate-House conference committee that would eventually reconcile the two versions of the entire energy package.[8]

This conference committee, which was made up of more conservative members than the Finance Committee, in turn voted for neither idea, instead deciding overwhelmingly to provide tax credits and tax cuts to utilities to induce conversion instead of new taxes. The technical costs of converting utility equipment from oil to coal use would likely be passed along to rate-paying customers, and giving utilities cuts and credits rather than taxing them directly would not have generated revenue for rebates to consumers to ease the transition. Carter was thus disappointed in this vote. Later in the month, though, the full Senate gave Carter a "surprise" victory when it voted in favor of a modified, more limited version of the originally-proposed tax. There was more support for the Carter energy program in the full Senate than in the Finance Committee, and the

[8] *Chicago Tribune*, 7 October 1977; *Los Angeles Times*, 28 October 1977. On Long's support for Louisiana's oil and gas industries see Robert Mann, *Legacy to Power: Senator Russell Long of Louisiana* (New York: Paragon House, 1992), 398.

public perception that the Senate had been lagging in adopting an energy program spurred the Senate to resolve the tax issue quickly.[9] Though the full 1977 energy bill emphasized tax credits instead of new taxes, Carter was in this case successful in pushing for specific taxes on utility oil use, although to a more limited degree than he had initially hoped. But burning coal first required obtaining it from underground, no easy feat in itself. Indeed, coal miners would soon attain a central position among the Carter administration's main political worries.

The United Mine Workers on Strike

If environmental regulations posed challenges to the coal conversion idea, another political development would prove much more momentous. In the spring of 1977, Carter's energy advisers were looking optimistically at the possibility of doubling yearly domestic coal production within ten years. The "major pitfall" threatening this forecast was the United Mine Workers of America, a unionized force organized in 1890 that was currently mining about 54 percent of the nation's coal supply. The UMWA was comprised of, according to one contemporary journalistic assessment, the most militant workers in all of American organized labor, and their contract was due to be re-negotiated.[10] The UMWA indeed had a long tradition of combining militant strikes and sabotage with coordinated national bargaining every three years to pressure the coal industry during contract negotiations. A likely strike during this round of negotiations would interrupt the Carter plans to convert American utilities to burn coal instead of oil.

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[9] *Chicago Tribune*, 7 October 1977; *Los Angeles Times*, 28 October 1977.
[10] *Christian Science Monitor*, 3 May 1977.

There is a distinction between industrial militancy and political radicalism, and the UMWA through most of its history had pursued the former as an organizing strategy and has eschewed the latter. While using strikes and violence during contract disputes, it has largely avoided a radical politics of economic redistribution, instead focusing on reliable wage increases and retirement protections for workers. The UMWA in the 1970s was different in one particular way from previous eras, namely the effectiveness of the UMWA head to channel militant impulses into a productive negotiating position. Longtime UMWA boss John L. Lewis had well understood his workers' confrontational tendencies, harnessing his workers' militancy to keep pressure on the government and the Bituminous Coal Operators Association (BCOA), an alliance of several powerful mine operators who had organized themselves in 1945 to coordinate bargaining with the UMWA.[11]

But current UMWA chief Arnold Miller was not nearly as savvy at mobilizing his workers' militant tendencies, bringing a new complication to government and business efforts to negotiate the UMWA's labor contract. First elected as UMWA chief in 1972, Miller's troubles had begun as early as 1974 amid accusations of financial mismanagement of the union's assets, which continued to dog him through 1975, 1976, and into 1977. Much of his administrative difficulties owed to his meteoric rise – his only other executive position had been running a local with numbers in the dozens – which, while impressive, had also left him unprepared to lead a feisty union with tens of thousands of members scattered across the eastern half of the country. A former miner suffering from black lung disease himself, Miller's sympathies certainly lay with rank-

[11] See Elizabeth Levy and Tad Richards, *Struggle and Lose, Struggle and Win: The United Mine Workers* (New York: Four Winds Press, 1977), 44-68.

and-file workers, but his inexperience left him unready to combat the union's enemies head-on and predisposed him to seek compromise instead of conflict. Local union leaders came to see the UMWA boss as too conservative and willing to give in to corporate and government demands at the expense of miners' rights and financial security.[12]

There was indeed good reason for Carter's policymakers to worry as 1977 contract negotiations approached. The resolution to the 1974 negotiation served as a grim harbinger for his domestic policy staff. It had failed to bring lasting peace to miner-employer relations, with wildcat strikes (strikes originated by the rank and file and not sanctioned by union leaders) continuing afterward. Strikes during negotiations were routine for the UMWA. Strikes after a contract's ratification were not, and indicated the UMWA's dissatisfaction with its central leadership. Wildcat strikes in anticipation of the contract re-negotiation three years later exploded in late April and early May 1977, shutting down a number of mines in West Virginia and Ohio. Roving pickets soon extended the shutdown to some fifty mines employing 15,000 workers. National UMWA officers tried to get strikers back to work but were met with resistance in the coalfields. At the same time, a tight three-way struggle for control of the UMWA was in progress with an election set for June. The internal fight had become so heated that it was doubtful that the UMWA would be stabilized in the near future. The election result, which saw Arnold Miller earn a second term, would have stark implications for the union's internal coherence in the very near future. Miller won the three-way race with only 40 percent of the vote, hardly a ringing ratification of his first five years in office.[13]

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[12] See the retrospective after Miller's death in *Washington Post*, 13 July 1985.
[13] *Christian Science Monitor*, 3 May 1977; Paul A. Clark, *The Miners' Fight for Democracy: Arnold Miller and the Reform of the United Mine Workers* (Ithaca: New York State School of Industrial and Labor Relations, 1981), 57-74.

As expected, the following winter the UMWA went on strike during the negotiation of a new labor contract. On December 7, 1977, one hundred and sixty thousand UMWA members walked off the job in protest of the terms that had been offered by the BCOA. The BCOA had offered the union wage increases of about 27 percent over the span of a proposed three-year contract. Carter had recently called on the nation's industries to keep wage and price increases to a minimum in order to combat inflationary spirals, and BCOA's offer followed in this spirit. Yet macroeconomic worries mattered little to UMWA miners. The union demanded a 44 percent increase. Wayne Horvitz of the Federal Mediation and Conciliation Service, which was helping to facilitate negotiations, pointed skeptically to this "very wide gap" between the UMWA and the BCOA. Financial concerns, however, were secondary to the miners to the right to strike itself. The contract three years earlier had curbed the possibility of illegal walkouts, but the new proposed agreement went much further. This new contract would have given the coal operators wide latitude to fire wildcat strikers, a provision the miners refused to accept.[14] As miners came to distrust their leaders' motivations and general competence, wildcat strikes stood as a last resort of guaranteed effectiveness in labor negotiations, and they refused to assent to this provision. There is little evidence that the UMWA specifically exploited Carter's calls to increase domestic coal production as a bargaining chip to extract higher wage gains. The issue of wildcat strikes stood at the center of the UMWA's objections.

The first strong pressure for government intervention appeared at the end of January, about seven weeks into the strike. Midwestern and Appalachian states suffered

[14] *Wall Street Journal*, 31 January 1978. Black lung protections were a top target of coal companies, but since the president was a strong supporter of black lung legislation, it is unsurprising that the BCOA declined to make it a major issue in these negotiations.

the brunt of a particularly cold winter and feared the impact that a coal shortage would have on their ability to stay warm. In early February, recognizing that no quick settlement was in sight, Carter instructed his administration to plan for cutbacks in electric power and coal supplies. He did not plan, at this point, to invoke portions of the 1947 Taft-Hartley Act, which gives the president power to intervene in strikes that constitute a "national emergency." UMWA strikes every three years to increase bargaining leverage during contract negotiations were routine, and Carter hoped this walkout might likewise end in the near future. The president's orders for the moment included suspending some air quality regulations in Ohio for thirty days, asking all federal facilities in the area to reduce power consumption to a minimum, and directing the EPA to "speedily review" any requests for temporary relaxation of Clean Air Act regulations.[15] In West Virginia, where the strike was based, miners mainly produced "soft," or bituminous, coal. Relaxing environmental regulations was meant to speed the burning of non-union "hard," or anthracite, coal from northeast Pennsylvania. Anthracite coal burns cleaner and produces less soot than does bituminous, but also tends to have a higher content of poisonous sulfur. By this point Carter considered longer-term problems of air quality as of secondary importance to the immediate emergency.

Reports began to emerge that the strike was exacting a broader toll on the nation's economic health, especially in the Midwest. The nation's automakers predicted production cuts and some resultant plant closings by the end of February if the strike did

[15] Ibid; *Chicago Tribune*, 12 February 1978. According to Council of Economic Advisers chairman Charles Schultze, Energy Secretary James Schlesinger was the catalyst for Carter's intervention in the strike, walking into a Cabinet meeting and proclaiming that the strike would produce an unemployment disaster if not addressed quickly. In Schultze's telling, he tried to argue against intervention but was soon drowned out in the meeting by pro-intervention voices. See Charles Schultze Interview, Jimmy Carter Presidential Oral History Project, Miller Center of the University of Virginia, 8-9 January 1982, 58.

not end soon, due to expected power shortages in Ohio and Indiana. General Motors (GM), for example, expected a mandatory 50 percent reduction in the electric power supplied by Ohio Edison Company, which would reduce production or force closures entirely at seven GM plants employing 27,000 hourly workers. To make matters worse, GM said that some of the plants in question were the only source of specific parts, meaning that the closings of only a few scattered plants could halt the production of entire cars if a key piece or two was no longer being made. It also warned that a "serious interruption" of supply could close GM's operations completely, which would generate layoffs of more than 300,000 employees. Chrysler predicted a closedown of all of its US and Canadian auto and truck assembly facilities by early March, which would idle about 150,000 employees.[16] While its impact was at first confined to the energy industry, the UMWA's strike threatened to soon generate broader ripples across the US economy.[17] Despite the negative impact the UMWA strike was having on the auto industry, the United Auto Workers did not blame the coal miners for hurting their trade. In fact, in an act of labor solidarity, they pledged $2 million to a relief fund for the families of UMWA workers.[18]

The auto industry news changed Carter's tone dramatically. On February 14, he demanded that the UMWA and BCOA convene at the White House immediately to resume "serious negotiations." In a statement at the White House, the president began by

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[16] *Wall Street Journal*, 15 February 1978.

[17] One industrial labor analyst later estimated that the strike put approximately 25,500 manufacturing workers out of work in an eleven-state "coal dependent" region stretching from the Midwest to the Southeast. See John Ackermann, "The Impact of the Coal Strike of 1977-78," *Industrial and Labor Relations Review* 32:2 (1979), 181-83.

[18] *Los Angeles Times*, 12 March 1978; *Chicago Tribune*, 2 April 1980. UAW President Douglas Fraser cast the $2 million contribution as repayment for UMWA assistance to the UAW in the auto workers union's formative years. "The United Mine Workers stood with the UAW during some of our most difficult struggles," said Fraser. "The miners under John L. Lewis supplied money and organizing help that was crucial to the survival and growth of the UAW in the 1930s. We haven't forgotten that."

speaking of the "increasing hardships" that the strike was causing, and declared emphatically that "it cannot be allowed to continue." Asked if he was ready to invoke Taft-Hartley, he replied tersely, "That's one of the options available to me, yes." Attorney General Griffin Bell, no particular friend to organized labor, did not rule out the use of federal troops in ending the strike, which had traditionally only been done during a wartime emergency. "I will have no choice but to resort to stronger measures" if the strike did not end, threatened Carter, and instructed Labor Secretary Ray Marshall, a pro-labor union sympathizer, to participate more directly in the negotiations.[19]

There were several options available to Carter, and none of them seemed good. He could invoke Taft-Hartley, but the consequences of doing so were impossible to predict. The law had been used against the UMWA only three times before and not since 1950. Two of the three invocations had been met with miner defiance and eventual federalization of the mines. Harry Truman broke the last Taft-Hartley impasse in 1950 by threatening to seize the mines again. Invoking the law would have certainly damaged Carter's already tense relationship with organized labor with no guarantee that it would yield any practical result.[20] But the disastrous status quo was no better choice. Carter

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[19] *New York Times*, 15 February 1978; *Los Angeles Times*, 15 February 1978; Gary Fink, "Labor Law Revision and the End of the Postwar Labor Accord," in Kevin Boyle, ed., *Organized Labor and American Politics, 1894-1994: The Labor-Liberal Alliance* (Albany: State University of New York Press, 1998), 243-44. On Marshall's pro-labor background, and his clashes with Carter advisers who preferred to fight inflation rather than stimulate job growth, see Melvyn Dubofsky, "Jimmy Carter and the Politics of Productivity," in Gary M. Fink and Hugh Davis Graham, eds., *The Carter Presidency: Policy Choices in the Post-New Deal Era* (Lawrence: University Press of Kansas, 1998), 98-99. Though Schultze and Marshall had running disagreements on the competing priorities of fighting inflation and addressing unemployment, Schultze somewhat condescendingly sympathized with Marshall's position in the coal strike and blamed Energy Secretary Schlesinger for getting the administration involved in an impossible position. "Poor Ray Marshall-it wasn't his fault. He was given instructions [by Carter] to go out and do all this. They got the miners into the White House and then the miners rejected the pact and everything else." See Charles Schultze Interview, Jimmy Carter Presidential Oral History Project, 8-9 January 1982, 58.

[20] Within a few weeks of taking office, Carter had set a target for a minimum wage increase that was too low for labor's preferences, and his insistence on budgetary restraint also dismayed workers who had anticipated large-scale social spending to stimulate unemployment reduction. See William E.

looked weaker every day he could not resolve the conflict. One of his major domestic policy goals was being derailed, and he seemed powerless to end the crisis. It was no small wonder, then, that he continued to urge the UMWA to reach agreement on the labor contract as soon as possible. Unfortunately for Carter, his aides had failed to reach management bargainers before Carter's February 14 announcement, and the first the bargainers heard of the demand to resume negotiations was therefore over national television, along with the rest of the country. "Stung" and embarrassed by the unexpected demands, according to the *New York Times*, the operators' association rejected the proposed meeting, but realizing the public relations disaster that would ensue from appearing intransigent, quickly relented.[21]

The Strike Turns Violent

Carter soon had even more to worry about. Drawing on a long tradition of sabotage and violence to strengthen its negotiating position, some members of the UMWA engaged in aggressive acts against non-union coal producers on a daily basis. Meant to impede coal from being mined or moved anywhere until the strike was resolved, which would preserve the UMWA's bargaining leverage and ramp up pressure on the BCOA, violence spread across the Southeast and Midwest. Some of the violence directly targeted non-union producers themselves. A few days after the strike began in December, for example, UMWA strikers formed a caravan of over a hundred vehicles and drove from Kittanning, Pennsylvania, northward through western Pennsylvania

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Leuchtenberg, "Jimmy Carter and the Post-New Deal Presidency," in Fink and Graham, *The Carter Presidency*, 12-15.

[21] *New York Times*, 24 February 1978; *Christian Science Monitor*, 15 February 1978; *Washington Post*, 8 March 1978.

toward Clarion. On the way, they stopped at several mining operations and ordered each to close down until the strike had been resolved. Each site unsurprisingly complied with the armed miners and their demands. At some sites, the roving miners inflicted damage to equipment or buildings. A firebomb was believed responsible for a January 6 blaze at Boonville, Indiana, that destroyed two independent coal-hauling companies, with total damage estimated at $500,000.[22]

UMWA members also targeted railroads to stop coal that had already been mined from getting to its intended destination. On January 3, a bomb destroyed a section of the Norfolk and Western Railroad tracks at Ada, West Virginia. On January 16, an L&N train traveling from Loyall to Corbin received gunfire while traveling over the Emerling Bridge. On January 23, reports indicated that a bridge carrying a section of track leading to the Tennessee Valley Authority plant at Paradise, Kentucky, was on fire, and about two weeks later, this bridge was set ablaze again. On February 8, in Pikesville, Kentucky, a basketball containing fifteen pounds of dynamite was thrown at a loading dock of the Elkhorn Fuel Company, but the fuses burned out, and the bomb did not explode. These examples represented only a small portion of the union violence. FBI reports documenting incidents from December 8 to March 5 record four incidents of bodily assault, thirty-four bombings, and seventy-two incidents of "disruption," which were mainly forced closings of mining operations.[23]

The night after Carter's tense speech, on February 15, the two sides did indeed convene at the White House to continue talks. The coal operators, who had in the White

[22] Memorandum from Larry S. Gibson to Douglas B. Huron, Coal Strike Situation Reports, box 9, folder Coal Strike: Key Memos, 3/10/78-10/78 [O/A 7751], White House Counsel's Files (hereafter CO), Jimmy Carter Presidential Library.
[23] Ibid.

House's view been the most vehement holdouts, returned at the behest of what White House press secretary Jody Powell graciously called a "concern for the general welfare." Another senior White House aide, though, cited a rumored public denunciation that Carter was prepared to make against the operators, blaming them for the crisis, if they spurned his request to return to the bargaining table. Five days later, the talks fell apart again. This set of talks hinged on three-way negotiations among the UMWA, the government, and the Pittsburg & Midway Oil Company (P&M), a subsidiary of the Gulf Oil Corporation. Although the P&M was not part of the Bituminous Coal Operators Association, the government hoped that if the P&M and the UMWA could come to an agreement, one or more other independent operators would support it. The government believed that subsequent combined public and corporate pressure would force the BCOA to retreat from its perceived hardline position. But the talks came apart when the P&M itself worried that it was being used for "pattern-setting" by the government and that the BCOA members might end up with a more favorable deal. Also not helpful to a resolution were the whispers of secret caucuses among UMWA officials opposed to UMWA's president Arnold Miller, as well as rumors of a "conscious effort" among federal mediators to bypass him. With the coal operators unlikely to budge and the UMWA fractured and disorganized, hopes for a resolution remained dim as ever.[24] Miller's shaky control of his organization, and seemingly endless conflicts with his top lieutenants, did little to alleviate an already-tense situation.

Two days after the talks resumed, on February 17, Labor Secretary Ray Marshall received a confidential memorandum from Mary Lawton, a high-ranking official in the Justice Department's Office of Legal Counsel. The memo was in response to preliminary

[24] *New York Times*, 16 February 1978, 20 February 1978.

inquiries into the possibility for federal seizure of the mines if the issues could not be resolved. Marshall's general sympathies lay with unions, and there was a strong chance that threatening to seize the mines would compel the BCOA to compromise and offer the miners a more favorable settlement. Lawton was skeptical about the idea, noting that previous presidents had only seized industrial facilities in times of war. The president had no authority to seize an industry in a strike situation, Lawton noted, if Congress had provided alternative means of settling the strike, which the Taft-Hartley Act and other legislation obviously provided. On February 24, Assistant Attorney General John Harmon, also from the OLC, wrote members of Carter's domestic policy staff to warn against seizure. The government had to decide at the outset just how far it was willing to go if it encountered resistance to seizure, Harmon said. "Would the government be willing to nationalize the mines on a permanent basis if either the operators or the mine workers refuse to comply with a seizure law?" he asked. Was it prepared to dismiss miners who refuse to work, and to staff the mines with government personnel? Could it use the Army as miners until a settlement was reached? "Is the President prepared to call out troops to protect the mines" against militant workers? These were questions that Harmon seemed to hope the administration would not have to consider, but time to resolve the crisis was running out.[25]

On the night of February 24, Carter scheduled a 9 p.m. television appearance to announce "drastic and unsatisfactory legal action" to end the strike, presumably meaning Taft-Hartley. At 7 p.m., though, the president made an unannounced appearance in the

[25] *Washington Post*, 8 March 1978; Memorandum to Honorable F. Ray Marshall from Mary C. Lawton, "Re: Analysis of possibilities for seizure of coal mines," 17 February 1978, box 9, folder Coal Strike: Key Memos, 2/78 [O/A 7751], CO; Memorandum to the Honorable Robert J. Lipschutz and the Honorable Stuart F. Eizenstat from John M. Harmon, "Seizure Pursuant to New Legislation," 24 February 1978, ibid.

White House press room to discuss a last-minute proposed settlement, and warned that he would follow through with the promised "drastic steps" if it fell through. Carter's about-face was due to his confidence in his own intense two-day effort to push the settlement through, which included getting the governors of Ohio, Pennsylvania, and Kentucky to phone company executives and urge them to accept an agreement.[26] Carter's maneuvering gave him cautious optimism that a breakthrough was imminent, but the margin for error was slim.

Most commercial customers had possessed three-month stockpiles of coal when the strike had started, which they had believed would be ample. Having been accustomed to regular work stoppages of varying length every three years as the UMWA renegotiated its labor contract, commercial customers had learned to keep excess coal on hand. The 1974 strike had lasted a mere 28 days, but this particular walkout was approaching its three-month anniversary. Because of the strike's unexpected duration, electrical utilities and other industries dependent on coal were running dangerously low in the states of Ohio, Indiana, Tennessee, and Pennsylvania. Utilities and industries in Virginia, West Virginia, Kentucky, and Michigan were not far from the point of panic either. In the meantime, P&M had also relented in its opposition and had finalized a separate agreement with the UMWA, after the company dropped controversial provisions giving management the power to punish all workers in a mine if they participated in a wildcat strike. The *New York Times* seemed cautiously optimistic about the settlement, but also was sure to note that the agreement had been negotiated by the divisive Arnold Miller, a man with increasingly less influence within the union. Even more damagingly, the union's 39-member bargaining council was not consulted and apparently learned of the

[26] *New York Times*, 25 February 1978.

"break-through" by watching television, a major insult to the rank and file. Nevertheless, Carter urged the union members to ratify the agreement immediately.[27]

Even as it appeared that the strike might be coming to an end, national media took a decidedly pessimistic tone about the broader prospects for the coal industry moving forward. As the *New York Times* reported, ending the strike in this way would do nothing to effect wider reform of the coal industry's "volatile" labor relations. The idea that labor tensions could erupt again seemingly at any time would be a major impediment to Carter's continued efforts to convince the nation's industries to switch from oil to coal. Administration economists also worried that the strike would set a pattern, and that the Teamsters, for example, might see the coal strike as a sign that they themselves could get a more generous contract simply by waiting until a trucking shutdown created a national crisis as well.[28]

Carter's economic advisers, namely Council of Economic Advisers (CEA) chairman Charles Schultze and special inflation adviser Alfred Kahn, were also concerned that sizable wage increases in the industry of such an essential economic input as energy would generate broader inflation, believing that the pay increases for the rank and file contained in the compromise contract would lead to substantial price increases for coal and thus electric power. These costs, they argued, would eventually "work their way" through to higher prices for a "broad spectrum" of goods and services.[29] Schultze also made a similar argument about a 1978 labor law reform bill proposing to weaken the

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[27] *Chicago Tribune*, 25 February 1978; "Nation: Entering the Doomsday Arena," *Time*, 27 February 1978.
[28] *New York Times*, 1 March 1978, 5 March 1978.
[29] *New York Times*, 5 March 1978. Inflation czar Alfred Kahn, according to one historian, believed that powerful trade unionists exercised monopoly power to keep their own wages high and exploited non-union workers, and insisted that "Carter had to put labor in its place." See Dubofsky, "Jimmy Carter and the End of the Politics of Productivity," in Fink and Graham, eds., *The Carter Presidency*, 99.

power of Taft-Hartley and make it harder for employers to fire striking workers, claiming that an increased number of strikes leading to higher wage settlements would yield deleterious macroeconomic consequences.[30] The UMWA's actions, in the eyes of these government officials, therefore threatened nothing less than the lasting destabilization of the US economy. It was of the utmost importance that the situation be brought under control as soon as possible before further damage occurred. Just what "control" would imply, though, still seemed elusive. Both the BCOA and the UMWA seemed unlikely to budge from their respective positions in the near future.

Sporadic Progress

Administration officials began making contingency plans in case the miners rejected the deal. Wayne Horvitz, the federal official leading the negotiations, wrote to Secretary Marshall on March 1 to again warn against the possibility of seizure legislation. The miners would not return to work under a Taft-Hartley injunction if they knew that seizure legislation was in the works, he argued, since the federal government would negotiate a settlement under seizure and would not be concerned about maximizing profits. If Marshall decided that seizure was necessary, Horvitz said, the legislation should not spell out the specific conditions of employment that federal control would mean for the UMWA. Rather, UMWA members should be told as little as possible about how their working conditions might compare between seizure and the proposed contract, as the uncertainty of the former might lead to resigned acceptance of the latter. Marshall agreed with this analysis, and Stuart Eizenstat, a senior domestic adviser to the president,

[30] Fink, "Labor Law Revision and the End of the Postwar Labor Accord," in Boyle, ed., *Organized Labor and American Politics, 1894-1994*, 245.

wrote to Carter two days later to outline the consensus view. A simple Taft-Hartley injunction was the "step most likely to get coal moving immediately," Eizenstat said, and legislation was premature since Taft-Hartley alone might end the strike. "Taft-Hartley satisfies the need for action without involving us in a legislative imbroglio and the unknown but certainly unpleasant consequences of owning the mines."[31]

Furthermore, any legislation seemingly too generous to the miners, Eizenstat said, would likely generate opposition from pro-business members of Congress. Eizenstat feared that alienating pro-business conservatives would jeopardize Carter's unrelated pieces of legislation under consideration on Capitol Hill. The administration, he said, had already exerted "great pressure" on the industry to accept a contract that it already viewed as a sellout. "We cannot credibly turn around and force them to back off even further under threat of seizure." Eizenstat also believed that the miners could not hold out much longer, predicting that the strikers "will surely seize upon the government order as an excuse to return to the work they so desperately need."[32]

Eizenstat was immediately proven wrong. The miners voted overwhelmingly against the settlement. On March 5, a Sunday, Press Secretary Jody Powell appeared in the White House press room to proclaim that Carter had called both a Cabinet meeting and a bipartisan meeting with congressional leadership. In the words of the *Los Angeles Times*, the "restrained euphoria" of the tentative settlement had transformed into a "mood of grimness" pervading the White House. Miners seemed to be generally satisfied with the wage provisions of the contract. But many apparently objected to dropping free

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[31] Memorandum from Wayne L. Horvitz to Honorable F. Ray Marshall and Honorable Landon Butler, Subject: Coal Negotiations, 1 March 1978, box 9, folder Coal Strike: Key Memos, 3/1-9/78 [O/A 7751], CO; Memo for the President from Stu Eizenstat, "Actions in the Coal Strike," 3 March 1978, ibid.
[32] Ibid.

medical care in favor of a deductible on all medical costs, provisions implementing the operators' demands to punish leaders of wildcat strikes, and the "strike-baby clause," which deprived miners' families of maternity benefits for children conceived while the strike was going on.[33] To the miners, preserving broad latitude to strike in the future was still much more important than an immediate resolution that would put them back to work. They refused to be lured with the promise of imminent relief to the detriment of their long-term bargaining position.

Relying on welfare payments and food stamps, as well as loans from relatives, many miners had apparently decided to hold out longer to get a contract they liked better, one that preserved their right to mobilize wildcat strikes when deemed necessary. Union leaders predicted "chaos and bloodshed" in the coalfields if Carter tried to invoke Taft-Hartley. As one West Virginia miner said of the prospects of forcing miners back to work, "No doubt in my mind, it's going to cause violence." David Forms, the former head of a UMWA local in West Virginia, told *Time* magazine that "You've got $250,000 pieces of equipment in each of these mines, and it wouldn't take much to tear them up. I'm not making any threat. That's just the way it is."[34] The UMWA would go back to work only on its own terms. Given the level of UMWA violence and sabotage that had already occurred, the accompanying threats were credible.

The next day, Carter formally invoked the law, which obligated the president to name a fact-finding panel to report on the impact of the strike before taking action. On the basis of that report, he could ask a federal court ordering the strikers back to work for

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[33] *Los Angeles Times*, 6 March 1978.
[34] Ibid; "Nation: Entering the Doomsday Arena," *Time*, 27 February 1978. The Forms quotation comes from an undated *Time* article found in box 9, folder Coal Strike 1978: Coal Operators—Correspondence, etc., 2/78 [CF, O/A 97], CO.

an 80-day "cooling-off period." Taft-Hartley also required the resumption of collective bargaining. Three days later, on March 9, Carter received the panel's written report, which predictably indicated the prospect of "little chance" for prompt settlement. Carter directed Attorney General Griffin Bell to enjoin the strike immediately. The U.S. District Court for the District of Columbia directed that UMWA halt the strike and commanded that the UMWA's officers instruct all members to "resume normal employment." It also ordered that the UMWA return to the collective bargaining table "in all good faith."[35]

The threatened violence in response to this order largely failed to materialize, yet miners found other ways to resist the order. Instead, they simply ignored it. Although fines and jail terms could have been imposed on miners and union officials who sought to actively incite support for continuing the strike, the government could do nothing to punish those who simply stayed home. On March 8, Doug Huron, Senior Associate Counsel in the White House Counsel's office, again broached the possibility of seizure legislation. "We had earlier decided to defer seizure until we had firm evidence whether the miners were returning to work under Taft-Hartley," he noted, and "it seems relatively certain that only a small percentage will go back."[36]

On the surface, the UMWA treated the order to return to work disdainfully and took steps to preserve absolute resistance to the injunction. The *Christian Science*

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[35] Ibid; Jimmy Carter to Attorney General Griffin Bell, 9 March 1978, box 9, folder Coal Strike: Key Memos, 3/1-9/78 [O/A 7751], CO; Temporary Restraining Order, box 9, folder Coal Strike: Pleadings, 3-4/78 [O/A 7751], CO.

[36] Memorandum for Bob Lipshutz and Stu Eizenstat from Doug Huron, Re: Seizure, 8 March 1978, box 9, folder Coal Strike: Key Memos, 3/1-9-78 [O/A 7751], CO; *Washington Post*, 12 March 1978. To bolster the administration's case for invoking Taft-Hartley, several Cabinet officials submitted affidavits outlining the broader economic damage that the strike was causing. Agriculture Secretary Bob Berglund, for example, predicted food shortages and sharply higher prices for consumers, since a disruption in electric power would affect dairy, poultry, beef, and hog producers. Other Cabinet officials testified to similar problems caused by the strike. See Affidavit of Bob Berglund, Secretary of Agriculture, 8 March 1978, box 9, folder Coal Strike: Pleadings, 3-4/78 [O/A 7751], CO.

Monitor told the story of Robert White, a miner from Ohley, West Virginia, who, although his wife supported their family sufficiently during the strike by working at an insurance company, simply wanted to go back to work. Although White invoked the memory of his father and grandfather in proclaiming that "I'm fighting for their beliefs and my beliefs in getting a decent contract," he also had a more practical reason for resisting the urge to return to the mines. "I got a call saying if I went back to work, my home would be blown up and everything in it." At a rank-and-file meeting of UMWA Local 9111 in Sesser, Illinois, Barney Beard sarcastically proclaimed that "As local president I have to ask you to go back to work." Amid laughter at Beard's sardonic command, one member shouted, "And we can tell you to go to hell." On March 13, the first Monday after the injunction was ordered, fewer than a hundred striking miners returned to the mines.[37]

But there were other things happening behind the UMWA's fierce façade. That same Monday, both the coal operators and UMWA senior officials had reported "some progress" in talks. The shift likely had to do with the fact that the Carter administration planned to cut off food stamps for strikers, which drew the threat of a court action from AFL-CIO President George Meany. Many of the UMWA strikers' savings and family support were by this point also running low, and they could hold out for only so long. Furthermore, non-union mines, especially in the West, had been steadily increasing production to take advantage of the shortages of union coal coming out of the Southeast and the Midwest. The longer the strike went on, the UMWA was beginning to realize, the

[37] *Christian Science Monitor*, 13 March 1978; *Washington Post*, 12 March 1978.

less important Eastern coal would become in the long run, and thus the more the UMWA was putting its own future livelihood in danger.[38]

The next day, negotiators for both the UMWA and the BCOA announced that they had reached agreement on a new contract proposal, one that was expected to win rank-and-file approval. The new three-year agreement would boost miners' wages and fringe benefits by about 39 percent, significantly more than the 27 percent increase under the rejected contract, and only slightly less than the 44 percent that the miners had originally demanded. The new settlement also scaled back changes to health and pension benefits. Most importantly for the miners, the new contract virtually eliminated the crackdowns on wildcat strikes. UMWA members still did not let up with their campaign to impede coal production until they had their say in the rank-and-file vote. In Somerset County, Pennsylvania, a caravan of about 150 vehicles traveled from mine to mine to make sure they stayed closed. On the seventeenth, the Justice Department, anticipating the ratification of this new contract, asked Judge Robinson to extend the temporary restraining order for another two weeks rather than issue a final Taft-Hartley injunction, which would have cut off food stamps to strikers. This extension would allow the status quo to prevail until the scheduled March 24 ratification vote.[39]

On the twenty-fourth, the UMWA rank and file voted 57 percent in favor of the agreement, effectively ending the strike. By March 28, the *Los Angeles Times* reported that miners were returning to work and operations "were beginning to return to normal."

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[38] *Chicago Tribune*, 14 March 1978; *Los Angeles Times*, 14 March 1978; *Wall Street Journal*, 17 March 1978. The UMWA had been an independent union since being forced out of the American Federation of Labor in 1948. Meany's conspicuous support for the UMWA against the administration thus highlighted the AFL-CIO's stark dissatisfaction with Carter.

[39] *Chicago Tribune*, 15 March 1978; *Wall Street Journal*, 17 March 1978; "Coal Strike Incident Highlights for March 14, 1978," box 9, folder Coal Strike: Key Memos, 3/10/78-10/78 [O/A 7751], CO.

A *Washington Post* headline spoke of Carter's relief at the strike's end, but the paper also noted that the final agreement did not contain earlier industry demands for curbs on wildcat strikes and other "labor-stabilizing" measures. The possibility for future upheavals was still very much present. "Restlessness" within the UMWA, the *Christian Science Monitor* opined, "could continue to block operations in the hills and tunnels where coal is dug" and "where the nation's energy future lies in rich, black veins."[40]

Carter and the Miners

Carter and his staff seem to deserve some of the blame for the duration and severity of the strike. As John Dumbrell and Carter's own staff have noted, Carter was a "populist" in one sense of the term. As "tribune of the people," he saw himself as a champion against "special interests" and "inside deals."[41] Wary of concentrated power in any form, he considered the BCOA, an alliance of private businesses, and the UMWA, an organized group of well over a hundred thousand miners, to each be a "special interest" in its own right.[42] He was reluctant to intervene on behalf of one or the other in their disagreements, instead preferring to continually urge both to return to the bargaining table after every breakoff in negotiations. Shortly before taking office, President-elect Carter and Ray Marshall had decided that, in the event of a coal strike, collective bargaining should be allowed to run its course and coercive government intervention

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[40] *Washington Post*, 26 March 1978; *Los Angeles Times*, 25 March 1978, 28 March 1978; *Christian Science Monitor*, 27 March 1978.

[41] John Dumbrell, *The Carter Presidency: A Re-evaluation* (New York: Manchester University Press, 1993), 17. Dumbrell's analysis draws extensively upon interviews with former presidential aides. On Carter's reticence to take sides in labor disputes see also Taylor Dark, "Organized Labor and the Carter Administration: The Origins of Conflict," in Herbert D. Rosenbaum and Alexej Ugrinsky, eds., *The Presidency and Domestic Policies of Jimmy Carter* (Westport, CT: Greenwood Press, 1994), 774-79.

[42] Burton I. Kaufman argues that Carter's "primary [labor] concern was with the unorganized, bottom rung of the labor market rather than with more highly paid union members." See *The Presidency of James Earl Carter, Jr.* (Lawrence: University Press of Kansas, 1993), 29.

would be mobilized only as a last resort. This was an approach also recommended by CEA chair Charles Schultze on the grounds that government intervention would encourage miners to increase their demands. But there was an obvious downside to this strategy. By the time Carter threatened to invoke Taft-Hartley, the miners had already prepared themselves for an extended struggle.

Historian Burton Kaufman describes the strike as an event "over which [Carter] had little or no control."[43] To be fair, the government had played a minimal role in coal bargaining ever since Truman's last invocation of Taft-Hartley in 1950. Yet Carter had failed to anticipate that the intractable disagreement between the BCOA and the UMWA over wildcat strikes, combined with the precarious position of embattled UMWA chief Miller, might lead to a prolonged and protracted battle. It did. The coal replacement idea was such an integral part of his energy security plan that Carter's seeming cluelessness about the UMWA's internal strife brings his political acumen into question, especially when his administration had specifically warned him about the possibility that the UMWA might impede his coal conversion plans. The failure of his administration to coordinate labor and energy politics was also clear. By contrast, in 1974, the Ford administration had diligently monitored the changing internal politics of the UMWA. It had then used intermediaries, most notably the high-ranking United Steelworkers of America official Meyer Bernstein, to gain information about Miller and to formulate strategies for resolving the expected strike. Though Ford administration officials had discussed invoking Taft-Hartley if deemed necessary, the 1974 strike ended before such an action was taken. In the case of handing coal labor policy, the president from Georgia was far less effective than his predecessor. Although, to be fair to Carter, the provisions

[43] Ibid, 78.

against wildcat strikes negotiated in 1974 made resolving the 1977 strike much more difficult than it otherwise would have been.[44]

Existing scholarship on the 1977-78 strike casts it as yet another episode in the UMWA militancy that began in the early years of the twentieth century, a discrete but familiar point in a decades-long stream of coal miner violence and defiance.[45] While such a broad chronological approach has its benefits in placing the strike in wider historical context, it also ignores the way in which the 1973 oil crisis affected the way Carter approached the strike. Carter's troubles in getting the miners back to work made him appear politically weak and contributed to his declining public image of competence, as analysts of the strike have already argued.[46] But Carter's desire to improve his standing in the electorate's eye was not the only reason for his frantic approach to the strike's resolution. The union's propensity for walking off the job and its deteriorating relationship with the BCOA also served, according to the administration, as significant roadblocks in the way of securing the nation's long-term energy future.[47]

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[44] On the Ford administration's UMWA policy see, for example, Memorandum from Mike Duval to W.J. Usery, Jr., Fall Coal Strike, 29 May 1974, box 4, folder Coal Strike Fall 1974 (1), Michael Raoul-Duval Files, Gerald R. Ford Presidential Library; Memorandum from Warren Hendriks to Ken Cole, Meany Meeting with the President, 13 August 1974, ibid; Memorandum from Mike Duval to Ken Buchen, Coal Dispute, 15 August 1974, ibid; Memorandum of Telephone Conversation with Meyer Bernstein, 14 August 1974; ibid.

[45] See, for example, Paul J. Nyden, "Rank-and-File Movements in the United Mine Workers of America," in Aaron Brenner, Robert Brenner, and Cal Winslow, eds., *Rebel Rank and File: Labor Militancy and Revolt from Below during the Long 1970s* (New York: Verso, 2010), 173-97.

[46] See Ackermann, "The Impact of the Coal Strike of 1977-78," 187-88.

[47] An internal memorandum outlined the administration's perception of the dire situation that the strike was creating. Cyrus Vance, Carter's Secretary of State, noted that the strike was reducing domestic energy production by the equivalent of about three million barrels of oil per day, or roughly the entire daily production of Kuwait. As domestic reserves of coal dwindled, Vance said, more oil would have to be imported to replace the lost production. Vance feared that "Because the cushion of excess supply in the world market is small, any significant increase in demand," such as would be created by a continued coal strike, "would lead to increased pressures within OPEC to raise world prices," perhaps permanently. See Memorandum for the President from Cyrus Vance, 20 February 1978, RAC Project, NLC-128 [Plains File]-13-5-12-7, Jimmy Carter Presidential Library.

The strike revises our understanding of labor history in the late 1970s. A sizable body of historiography has cast the 1970s as a period in which the political power of organized labor fell off precipitously, owing largely to the United States' decreasing dependence on its manufacturing base, as well as corruption and malfeasance by union leadership. Judith Stein, for example, has recently argued that national Democrats in the late 1970s abandoned their direct support of organized labor, "replac[ing] the assumptions that capital and labor should prosper together with an ethic claiming that the promotion of capital will eventually benefit labor."[48] At the same time, public opinion turned against the perceived greed and corruption of union members, symbolized most viscerally by the shocking murder by UMWA boss Tony Boyle of his rival Jock Yablonski, and his wife and daughter, in 1969.[49]

This narrative is accurate to some extent. Political leaders, including the historically labor-friendly Democrats, paid less attention to the demands of labor's highest-ranking officials in the 1970s than they had in decades before. Much scholarship on Carter's labor policy focuses on his deteriorating relationships with AFL-CIO head George Meany and United Auto Workers chief Leonard Woodcock due to his perceived anemic labor initiatives.[50] But turning attention to how Carter's labor policies intersected

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[48] Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s* (New Haven: Yale University Press, 2010), xii. See also W. Carl Biven, *Jimmy Carter's Economy: Policy in an Age of Limits* (Chapel Hill: University of North Carolina Press, 2002), x.

[49] The story of the Yablonski murders helps frame a major new publication on the declining standing of organized labor in the 1970s; see Jefferson Cowie, *Stayin' Alive: The 1970s and the Last Days of the Working Class* (New York: The New Press, 2010), 23. On the broader declining public image of organized labor see Lawrence Richards, *Union-Free America: Workers and Antiunion Culture* (Urbana and Chicago: University of Illinois Press, 2008); David Witwer, *Shadow of the Racketeer: Scandal in Organized Labor* (Urbana and Chicago: University of Illinois Press, 2009); James B. Jacobs, *Mobsters, Unions, and Feds: The Mafia and the American Labor Movement* (New York: New York University Press, 2006).

[50] See, for example, Gary M. Fink, "Fragile Alliance: Jimmy Carter and the American Labor Movement," in Rosenbaum and Ugrinsky, eds., *The Presidency and Domestic Policies of Jimmy Carter*, 783-803, and Russell D. Motter, "Seeking Limits: The Passage of the National Energy Act as a Microcosm of the Carter Presidency," in ibid, 572.

with his signature domestic priority of energy security yields a different view of labor's agency in the Carter years. As the UMWA strike shows, simply because labor leaders wielded less influence in Washington did not mean that the rank and file did not hold alternative ways of making their dissatisfactions known. The United Mine Workers in this era paid little attention to the wishes of its ostensible spokesman Arnold Miller anyway. Its acute ability to disrupt a major domestic priority of the incumbent administration must give pause to analyses that cast the early 1970s as the effective terminus of organized labor's power in American politics. While UMWA's leader Miller found himself marginalized within his own organization and ignored by high-ranking federal officials, the rank and file miners proved feisty and combative opponents for both the coal mining companies and the Carter administration alike.[51]

The consequences for both Carter's energy policy and the UMWA's future were significant indeed. In the strike's aftermath, industrial and utility coal customers worried about the favorability of the settlement for the UMWA, predicting that their victories would encourage and embolden future militancy. The UMWA's labor contract was renegotiated every three years, so it would not be long until the viability of labor-management peace was again tested. Moreover, given its effects in slowing down the auto industry and other manufacturers, the strike itself had stalled economic growth, and recovery would be slow.[52]

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[51] See Levy and Richards, *Struggle and Lose, Struggle and Win*, 108-12.
[52] *New York Times*, 1 March 1978.

Railroads and Deregulation

Though the labor issue was resolved, the regulatory-economic structure of the coal industry itself presented another layer of difficulty for Carter's coal conversion plans. This specific structural problem had deep historical roots. In the face of the astronomical profits reaped by railroad operators like Cornelius Vanderbilt and Leland Stanford, in 1887 Congress passed the Act to Regulate Commerce to set rates at a "just and reasonable" level. It created a new regulatory body, the Interstate Commerce Commission (ICC), and charged it with upholding this standard, allowing wide latitude to determine just what was reasonable and what was not. Nearly a century later, in the second half of the 1970s, the federal government began to retreat from its role in overseeing transportation, along with communications, banking, and energy. Crushing inflation made competitive pricing seem much more attractive and necessary than during the ample prosperity of the immediate postwar years.[53]

In February 1976, President Ford signed the Railroad Revitalization and Regulatory Reform Act (4R Act), designed to bolster the nation's "ailing" railway industry, which, partially because of the rise of airlines, had sunk into disrepair. Airlines could ship many consumer goods more quickly, and provided a faster transport method for passengers too, which cut heavily into railroad traffic. But many larger items – including shipments of coal – could not be moved by air, and saving the railroads was necessary. The law committed $6.4 billion for the purposes of rehabilitation and modernization, including $1.6 billion in grants to finance improvements to the Northeast

[53] On the creation of the ICC see Thomas K. McCraw, *Prophets of Regulation: Charles Francis Adams, Louis D. Brandeis, James M. Landis, Alfred M. Kahn* (Cambridge: Harvard University Press, 1984), 62. On the macroeconomic climate creating political space for a deregulatory agenda see Thomas Borstelmann, *The 1970s: A New Global History from Civil Rights to Economic Inequality* (Princeton: Princeton University Press, 2012), 148-49.

Corridor line running between Boston and Washington, $1 billion in loan guarantees to finance facility improvements across the nation, and $200 million to electrify routes between Pittsburgh and Harrisburg in Pennsylvania. The law also included provisions for deregulation of rail routes, allowing railroads substantial latitude to explore rate increases of up to 7 percent annually without substantive ICC supervision. This figure was added to help railroads gain more revenue from coal to compensate for slim profits, or even losses, in carrying other items for which there was more competition.[54]

As Carter encouraged the switch to coal, he met obstacles with the railroad industry as well. Over the past few years, the desire for increasing production of domestic sources of energy had generated several proposals to build slurry pipelines from the West. Coal slurry is a thick, black liquid that looks like crude oil, and is created by grinding coal to the consistency of sugar and adding water. Among the proposals was a 38-inch pipeline stretching over a thousand miles from Wyoming to Arkansas, which would prospectively carry 25 million tons of coal per year. In 1978, the nation's rail infrastructure was largely in disrepair, but railroads were loath to give up "their private domain" of transporting Western coal. They uniformly refused to allow slurry pipelines to tunnel beneath their tracks, and the pipeline advocates resorted to looking for "windows," stretches of track where the railroads did not hold title, purchasing rights from the owners, and taking the issue to court. Although the pipelines were victors in a majority of the cases they filed, it was a long and slow process.[55] Dealing with the ailing railroads themselves seemed the only viable option.

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[54] *New York Times*, 5 February 1976.
[55] *Christian Science Monitor*, 15 March 1978.

In June 1978, the ICC rejected an industry request for a 7 percent increase on coal shipments to electric companies. Instead the commission allowed a 4 percent increase, citing coal's status as a "basic energy source" and the inflationary impact of an increase it deemed "not fully justified." And in August, the ICC fined the Louisville & Nashville Railroad Company $1 million with violating requirements to move freight cars into coal mining regions. Members of Kentucky's congressional delegation had been in to speak with ICC officials the previous month to relay the complaints of coal mining companies, which had claimed that the L&N was using cars for more profitable endeavors. The mining owners alleged that this caused them major financial difficulties, as they could not ship the coal they had mined. The ICC agreed with them, claiming that repeated efforts to get L&N to move cars faster had been ignored.[56]

The L&N responded in October, claiming that it lacked the equipment to move coal sufficiently, and therefore requested a 22 percent hike in coal freight rates to pay for it. L&N's chairman cited the large discrepancy between his company's average charge for moving a ton of coal ($3.57) and the national average ($6.49), and claimed that the increase would provide $425 million over the next five years to pay for locomotives, freight cars, and facilities. Utilities vehemently resisted L&N's claims, as any increase in freight rates would lead to a rise in the price of coal, which would cut into utility profits. The senior vice president of finance for Georgia Power, for example, announced his opposition to the proposal, claiming that the boost would reduce his company's profit by $7 million over just the next year alone. Despite the opposition, though, the ICC approved the increase within a matter of weeks.[57]

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[56] *Washington Post*, 8 June 1978; *New York Times*, 8 June 1978; *Washington Post*, 18 August 1978.
[57] *Wall Street Journal*, 4 October 1978; 12 December 1978.

In the midst of the oil crisis resulting from the Iranian Revolution of late 1978, the ICC allowed railroads to give priority to hauling food and fuel supplies at the expense of manufactured products, and allowed railroads more leeway in coming up with rates to achieve this end. To utilities, it seemed as if railroads' power was out of control. As the Tennessee Valley Authority noted, for example, the average transportation cost of a ton of coal rose over 60 percent from fiscal year 1977 to fiscal year 1979, from $2.60 to $4.22. Though TVA claimed to be trying to control rail-rate increases through negotiation of long-term rate agreements, such goals were difficult to achieve in the sour and unstable economic climate of the late 1970s. Taking a frustrated tone, TVA noted that it had become increasingly difficult to work with the railroads, particularly the L&N Railroad, TVA's major rail carrier. "TVA is currently in the process of negotiating new long-term agreements with the L&N," it claimed in a summary of its coal procurement program, and it reported with exasperation that "there has been no response to [our] last proposal." While the railroads contended that the costs were justified, TVA's own studies on the matter concluded skeptically that the increases were "excessive."[58] Utilities had little power to resist the railroads' rate increases, and in their view the railroads were exploiting economic uncertainty.

In November 1979, Representative Bob Eckhardt (D-TX) launched a direct attack on the railroads. He asked the Supreme Court to overturn some of the recent ICC decisions affecting rail rates, which he claimed had artificially increased coal prices and utility bills, especially in the Southeast. In doing so, he joined in a case brought by

[58] *Wall Street Journal*, 27 June 1979; "TVA's Coal Procurement Program," box 37, folder 14, Chili Dean Papers, Special Collections, University of Tennessee, 8-12. The report on the coal procurement program noted, for example, that the rates for rail transportation at the L&N's Gallatin station had increased 154 percent from fiscal year 1978 to fiscal year 1979; the rates for the Widows Creek station rose 120 percent in the same period.

Houston Lighting and Power and Arizona Electric Power Cooperative assaulting a 1978 ICC decision. This decision had approved a rate increase request by Burlington Northern Inc., which Eckhardt claimed had then catalyzed further increases by other railroads. He deemed these recent price hikes unwarranted and harmful. Eckhardt's argument revolved around his interpretation of the 4R Act's requirements that the ICC consider both a railroad's profitability and the "general public need," and he claimed that the ICC had ignored the latter in coming up with their decisions.[59]

He seemed to have a point. As a result of the decisions, coal hauling rates in the Southwest in 1978 had more than doubled over what 1974 projections had predicted. According to Eckhardt, his constituents subsequently paid $40 million a year in higher utility bills than they should have. Eckhardt's accusations quickly gained traction. The same month, the Department of Justice asked a federal appeals court to overturn the decision, along with several related ones. Its antitrust division joined the city of San Antonio in accusing the ICC of ignoring the needs of consumers. The appeals court agreed with the ICC's critics, deeming the 7 percent figure of latitude in exploring costs arbitrary, and ordered the ICC to come up with an approach that it could more solidly justify.[60]

The ICC thus found itself under assault, and quickly acted to make amends. In May 1980, for example, it ordered two rail companies, Burlington Northern Incorporated and the Chicago & North Western Transportation Company, to repay nearly $3 million in overcharges on coal shipments to an Iowa utility. The two railroads had proposed a rate of $10.69 a ton for coal shipped from Wyoming to Iowa, effective in September 1978.

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[59] *Washington Post*, 22 November 1979, 28 November 1979.
[60] Ibid; *Wall Street Journal*, 19 November 1980.

When the utility protested, the ICC investigated and found that the rate was illegally high, and required that it be rolled back to $8.23 a ton. The railroads pleaded with the ICC to reconsider the decision, arguing that Congress wanted the financial stability of the railroads restored, but the commission demurred, arguing that the policy of restoring the railroads' solvency only went to certain limits before increases became unacceptable.[61] Railroads' financial health, while a major concern, could not be allowed to impinge too directly on consumer energy costs. Though the railroads had achieved some measure of victory in the deregulation debate, it was partial at best. The necessity of maintaining affordable energy meant that railroads would not be given total freedom to set their own rates at will.

Congress, prodded by the Carter administration, in mid-1980 proceeded with rail deregulation that went even further than the 4-R Act. Though Carter knew that enacting such measures could increase the cost of coal to utilities and thus to consumers, he was also interested in doing more to fix the nation's ailing railroads. His domestic policy staff recognized that they were taking a gamble, balancing fears of consumer anger in the short term against the hopes of achieving economic health for the railroad industry in the long term. In doing so, they agreed with the *New York Times'* analysis that, in the long term, the choice would not be between expensive rail service and cheap rail service, but instead between expensive rail service and no service at all.[62]

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[61] *Wall Street Journal*, 21 May 1980.

[62] Memorandum for the Vice President from Steve Simmons, Meeting with Texas Delegation on Rail Bill, 1 July 1980, box 78, folder Rail Deregulation -Memorandums/Internal, 4/80-7/80, Domestic Policy Staff – Steven Simmons' Subject Files (hereafter DPSSS), Jimmy Carter Presidential Library; *New York Times*, 25 March 1980. On Eckhardt's role in the 1980 rail deregulation see Gary A. Keith, *Eckhardt: There Once Was a Congressman from Texas* (Austin: University of Texas Press, 2007), 289-90.

In early July, the House debated an administration-backed bill that would give railroads freedom to set rates without ICC review, except on specific rail routes where no competition existed. Not unimportantly, the definition of "competition" at stake was rather wide. As written, it would mean not just the presence of competing rail lines in an area, but that railroads would simply be allowed to show that the shipper could obtain goods from another source at a price near the cost of transporting the goods by rail. Eckhardt and his coal industry allies challenged this definition. They argued that it overestimated the feasibility of water movement, which was only useful near navigable waterways, as well as truck transport, which, due to size and weight limitations, was only useful at distances of less than a hundred miles. Eckhardt introduced an amendment in the House to strike this wording, seeking to perpetuate the ICC's strong jurisdiction over coal shipping, but it was easily defeated. At the end of July, he succeeded in passing a different amendment that hinged upon the issue of "trigger prices," the ceilings above which shippers could appeal rate increases to the ICC. The administration-backed bill would have set the ceiling far above current levels with the intention of helping to revitalize the rail industry.[63]

Eckhardt's amendment, whose victory came as a surprise to administration officials, reduced the trigger prices to levels that approximated the average freight rates in the country, which were significantly below the administration's proposed rates. In September, Eckhardt and his opponents reached a compromise on the bill as a whole. While largely deregulating the railroad industry, the compromise (known as the Staggers Act of 1980) gave the ICC stronger powers in dealing with shippers served by a single

[63] National Coal Association Staff Analysis, Railroad Deregulation: Implications and Alternatives for Coal Producers and Users, 23 May 1979, box 81, folder Rail Deregulation – William Johnson File, 5/79 – 7/79 (CF O/A 10,681), DPSSS; *Washington Post*, 2 April 1980; *New York Times*, 3 July 1980.

railroad, which included many coal mines in the East. The administration was disappointed with this compromise, believing that it was not in the railroads' long-term interest to remain subject to partial regulation in general and fearing the effect of continued regulation for the coal conversion plans in particular.[64] Though the administration achieved the goal of boosting the railroad industry as a whole through deregulation, this compromise did little in the short term to help the specific goal of coal conversion. The administration found its plans stymied by the complex interplay of divergent interests at stake, which it had again failed to adequately consider at the outset of debate.

The UMWA's Future

The confusion of Carter's staff in the railroad deregulation debate, and their sluggishness in understanding the concerns of the various interest groups involved, were symptomatic of the administration's general orientation toward energy. The policymakers in the Carter administration conceived of coal as a commodity whose domestic abundance could help wean the nation off of imported oil. The administration's plans reflected a simplistic approach to the fuel that sought increases in coal production and distribution in order to replace oil as an input in the process of electricity production. As a symbol, coal represented a more secure position in the international arena, as it would cleave the United States from dependence on oil from an increasingly unstable region of the world. Carter administration policymakers' first and most glaring error was in not

[64] *New York Times*, 25 July 1980; *Chicago Tribune*, 6 September 1980. As it turned out, later in the 1980s shippers charged that the ICC had become *too* passive in the face of deregulation and Reagan's prevailing anti-government rhetoric, and they claimed that the ICC was shirking this duty to protect shippers "captive" to a single railroad. These shippers called for re-regulation of the railroads, an effort that went nowhere. See *Richmond Times-Dispatch*, 21 September 1986; *Chicago Tribune*, 13 June 1987.

considering how increasing coal use would be constrained by existing environmental regulations. But there were many other problems as well. Later conflicts over coal reflected deeper differences over conceptions of its essential nature, and demonstrated how control of the fossilized material represented underlying power relations.

UMWA miners saw coal in terms of the sweat and toil they had expended while mining it from the ground, a brutal and backbreaking job further exacerbated by the constant lurking threats of explosion and gaseous poisoning.[65] For miners, the dangers involved in providing the material to heat homes and businesses and allow Americans to live in comfort entitled them to reasonable compensation in return. What they lacked in everyday job safety, they believed, they were entitled to in economic security. Increasingly unfavorable contracts in the tightened macroeconomic environment of the 1970s threatened this longstanding expectation. Unionized miners thus sought to exert control over the fruits of their labor, interdicting shipments of non-union coal in order to obtain concessions in contract negotiations. They sought to use the black rock as a tool of preserving their economic standing in an era of increasing inflation and decreased consumer purchasing power.

Their corporate foes, by contrast, saw coal in terms of the capital investment they had made to obtain it, and they resisted the miners' demands in order to secure what they saw as their legitimate return. The inflation of the 1970s brought smaller and smaller profits for corporations across the economic spectrum, and coal companies resisted miners' demands to maintain what the coal companies saw as overly lucrative labor

[65] For the best analysis of the exceptional dangers of coal mining and the effects on worker militancy see Thomas G. Andrews, *Killing for Coal: America's Deadliest Labor War* (Cambridge: Harvard University Press, 2008), 147-48.

contracts while company profits shrank.[66] Miners' and coal mining companies' fundamental disagreements over how the profits of coal mining should be allocated had a stark effect on Carter's energy plans, and generated problems that continually frustrated Carter's domestic policy staff as well as his legal advisers.

There was still another group involved in the economic debates, one whose interests lined up neither with the miners nor the coal mining companies. Railroad interests saw coal as a potentially useful profit-maker, but only if they were allowed significant leeway to set the rates for what traveled along their tracks. This desire brought the railroads into nearly-irreconcilable opposition with coal companies, for each extra dollar charged by the railroads to haul coal was a dollar out of the coal companies' pockets. Because miners were paid by the coal companies, each extra dollar charged by the railroads to ship coal also represented money out of coal miners' wallets down the line.[67] Coal miners, mining companies, and railroads all battled for economic hegemony, with the Carter administration caught in between all of them. For all these private-sector constituencies, the conflicting understandings of coal relied on divergent ideas about its control. UMWA miners sought to control the commodity their dangerous labor had yielded, coal mining companies sought to control the returns on their industrial investment, and ailing railroads sought to control their rails and what rode upon them.

Conflicts over the meaning of coal thus reflected disagreements over ownership of the natural world and especially the physical landscape. Coal was a commodity whose extraction, transportation, and burning all had intensely localized effects, and major

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[66] On declining corporate profits and the effect on labor markets in the 1970s see Norman Caulfield, *NAFTA and Labor in North America* (Urbana and Chicago: University of Illinois Press, 2010), 1-7.
[67] Coal companies' opposition to deregulation appears to have been shortsighted, as the increased efficiency of railroads under deregulation resulted in coal freight rates actually dropping by 6 percent (adjusted for inflation) from the end of 1981 to the end of 1986. See *Chicago Tribune*, 13 June 1987.

controversies in the late 1970s turned on how profits generated by this natural resource would be distributed. The administration's emphasis on coal's increased importance, and its calls to expand production and distribution, only exacerbated these underlying tensions. The lacuna in the administration's thinking meant that it could not appreciate the clashes that would result when its energy agenda reconfigured the power relations embedded within the political economy of coal.

The UMWA strike and the debate over railroad deregulation were linked in an unexpected and profound way, one that became apparent after Carter's re-election defeat and the inauguration of his successor, Ronald Reagan. It was during the Reagan administration that the UMWA's power fell off precipitously, much more so than in the Carter years, but it was not Reagan himself who crushed the union. Indeed, the Reagan years began as a time of optimism for the UMWA. In response to its 110-day strike in 1977-78, the union had received a quite favorable contract that both guaranteed significant wage increases and preserved protections for wildcat strikers. The UMWA was therefore emboldened when Reagan announced huge federal cuts to black lung benefits shortly after his inauguration in 1981. New UMWA chief Samuel Church, a man much more respected within the union than his predecessor Arnold Miller, invoked the specter of the April-May 1977 strikes to guarantee that the "victories aren't taken from us by an administration that apparently has no concept of coal mining and what it does to the people who are simply trying to make an honest living."[68]

As the March 26 deadline to negotiate a new contract approached, a broader set of concerns emerged. The BCOA had agreed to a contract giving a 36 percent raise over the next three years, along with a new dental plan and increased pensions. But the BCOA had

[68] *Wall Street Journal*, 20 February 1981.

been generous with financial benefits in the new contract for a very particular reason, one that infuriated the miners. The new contract would allow BCOA members to process non-union coal at preparation plants located at union mines. Miners balked at the idea of having non-union coal in unionized workspaces. Even worse in the eyes of the miners, though, the coal companies were at present required to pay a royalty of $1.90 per ton into a pension fund for retired miners for each ton of union-mined coal that was processed, and the new contract exempted non-union coal from this royalty. Though non-union workers would mine the coal in question, UMWA members were the ones doing the processing, and the proposed exemption thus represented to the miners both an underhanded jab at their financial security and an insult. The union went on strike to prevent this provision from going into effect.[69]

The 1981 strike lasted 72 days, which, while shorter than the 1977-78 walkout, still made it the second-longest coal strike in US history. The final settlement restored union rules governing the processing of non-union coal, although it also for the first time allowed coal companies to farm out some work to non-union contractors. But the aftermath of the strike also revealed a larger telling story about the UMWA's diminished power, one rooted in Carter's deregulatory actions. The Staggers Act of 1980, which had crippled the ICC, had also catalyzed railroads across the country to pursue mergers, which brought various routes under tighter control and better management and made them more efficient. Though the Staggers Act had kept regulation in place in cases where there was no effective competition for rail service, the improved coordination of railroads crisscrossing the country resulting from mergers brought down costs gradually but

[69] *Chicago Tribune*, 27 March 1981; Ronald Garay, *U.S. Steel and Gary, West Virginia: Corporate Paternalism in Appalachia* (Knoxville: University of Tennessee Press, 2011), 143-44.

significantly. Mergers rendered railroads more profitable and made it easier to speed non-union coal from the West around the country, even with formal ICC regulation of some route prices still in effect. Furthermore, the Staggers Act freed railroads to enter into long-term contracts not subject to constant ICC oversight, which made prospective future revenues much more reliable and predictable. The West had long been a major center of coal reserves, but the high cost of transporting it back east had limited its contribution to the national coal economy. The Staggers Act largely removed that obstacle.[70]

This development brought the UMWA's fears about the growing influence and power of non-union coal to fruition. In 1970, the share of total US coal covered by the union's contract had been 70 percent, but by March 1981 it was a mere 44 percent and falling. Coal executives and government officials alike predicted that the UMWA's propensity for striking would continue to drive demand for non-union coal, especially with improved rail service taking it easily eastward for wide distribution.[71] Many non-union Western coal mines were owned by oil companies, who, noticing decreased petroleum reserves and more difficult oil field exploration, had begun to aggressively enter the coal market. Due to these oil companies' diverse revenue streams, they were much better equipped to resist Western miner defiance than eastern coal companies, who relied totally on revenue from coal. Western coal, like that of Appalachia and the Midwest, is generally bituminous, making Western coal and easy substitute for that of the east. National periodicals that had expressed fear and awe of the UMWA's power at the

[70] *Wall Street Journal*, 8 June 1981.
[71] Ibid.

end of the 1977-78 strike now described the 1981 strike as a pained gasp of a suffering and weakened entity.[72]

The mergers spurred by the 1980 Staggers Act thus represented a grave threat to the UMWA's bargaining power in the future. In contemporary media coverage, the UMWA seemed increasingly to be a relic of the past, and perhaps it was. The UMWA's initial organization efforts in the 1890s had occurred with the blessings of the myriad small mine operators extracting coal in Appalachia and the Midwest, who saw a unionized workforce as a way to stabilize their intensely competitive industry. Overproduction and seasonal variations in demand made operating coal mines a risky entrepreneurial choice, and unionization of disparate miners was the best hope to steady the political economy of the industry. The 1920s and 1930s witnessed a consolidation of eastern coal producers that eliminated these structural problems, but by then the UMWA was firmly entrenched in the region. By contrast, the West's remoteness spared it from this battle of small operators ever occurring. The Western coal industry had instead been developed by a handful of large companies, who, far from encouraging unionization, had instead suppressed it.[73] Nearly a century later, newspapers predicted that this non-union coal would power the country's future. Striking during contract negotiations had once appeared to be a powerful bargaining tool for unionized miners. But now, at the beginning of the 1980s, the UMWA, by insisting on striking during every contract negotiation, seemed to be speeding its own demise.[74] The feasibility of using Western

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[72] *Christian Science Monitor*, 18 January 1982.
[73] See Barbara Freese, *Coal: A Human History* (New York: Penguin Books, 2003), 137-38; John H.M. Laslett, "'A Model of Industrial Solidarity?': Interpreting the UMWA's First Hundred Years, 1890-1990," in John H.M. Laslett, ed., *The United Mine Workers of America: A Model of Industrial Solidarity?* (University Park, Penn.: Pennsylvania State University Press, 1996), 11-12.
[74] In the early 1980s, with its bargaining power decreased in the face of the rise of non-union coal, the UMWA shifted its strike strategy from a general national strike approach to a "selective strike strategy"

coal as a replacement for that mined by the UMWA brought a new paradigm to the domestic coal industry.[75]

These consequences, and the tone of the national press after the strike's settlement, cast Jimmy Carter's relationship with the UMWA a few years before in an entirely different light. In February 1978, with the 1977-78 strike ending, the *Chicago Tribune* had indignantly accused President Carter of unfairly applying pressure "principally to one side, the mine operators" and of "help[ing] the UMWA get its way."[76] In the *Tribune*'s opinion, Carter had gone much too far and had flirted with extortion of the coal companies to help the miners achieve their demands. Although the *Tribune*'s accusations were overblown in light of Carter's invocation of the anti-union Taft-Hartley Act, at several moments during the strike Carter indeed lashed out at the BCOA, demanding that they do more to accommodate the UMWA's wishes. The Carter-supported settlement saw the BCOA giving the miners almost every substantial provision that they had gone on strike to achieve. Ironically, though, it was the Carter-supported Staggers Act that did more to weaken the power of the UMWA than anything the BCOA did during the tense and violent 1977-78 walkout, and even more than Carter's use of Taft-Hartley.

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which sought to turn private companies against each other. Under this approach, coal miners would strike against only a few companies, which would quickly fall behind companies whose workers were not striking, and it would force targeted companies to come to a quick agreement with the miners to stay viable. Rather than relying on the weakened power of the UMWA itself, this strategy instead leveraged the competitive forces of the coal market. See Paul F. Clark, "Legacy of Democratic Reform: The Trumka Administration and the Challenge of the Eighties," in Laslett, ed., *The United Mine Workers of America*, 469-72.

[75] In 1970, 93 percent of the nation's bituminous and lignite coal was mined east of the Mississippi; by 1990, it was a mere 61 percent. In the intervening years, the Western states had greatly increased shipments of coal to electrical utilities. See Gregory A. Elmes and Trevor M. Harris, "Industrial Restructuring and the United States Coal-Energy System, 1972-1990: Regulatory Change, Technological Fixes, and Corporate Control," *Annals of the Association of American Geographers* 86:3 (1996), 507-29.

[76] *Chicago Tribune,* 27 February 1978.

These developments remind us of the deregulatory continuities between the Carter and Reagan administrations. In popular perception, Ronald Reagan transformed the political landscape of the US, ushering in an era of deregulation and undercutting the economic and political power of organized labor. But the intertwined history of the UMWA and rail deregulation reveals that Carter contributed significantly to both of these developments, even if his actions in this particular case brought about decreased UMWA influence quite by accident. For all his other anti-union measures elsewhere, Reagan himself barely had to do anything at all to weaken the public image of the UMWA, and was not nearly as involved in settling the 1981 strike as Carter had been in ending the one of winter 1977-78. The Staggers Act passed under Carter practically took care of the task of undercutting the UMWA's political and economic standing for him. That Carter pursued the Staggers Act to help the railroads does not make its indirect effect on the UMWA's lasting viability any less noteworthy. The deregulation of railroads, not the shocking image of Jock Yablonski's murder, Carter's ambiguous relationship to unions in general, nor Ronald Reagan's anti-union exhortations, is what helped truly weaken the UMWA.

This chapter demonstrated how attempts to achieve energy security intersected with existing political and economic arrangements, and how such attempts had unexpected consequences. It also showed how the Carter administration's political missteps impeded the execution of energy policy and how perceived incompetence led to the president's declining public reputation. But there was another factor that also intruded into debates about energy policy, namely predictions of future energy use. Since future energy use relies on a number of dynamic factors – population growth, economic growth,

and rates of technological progress, among others – wildly divergent predictions of future energy needs could all seem reasonable. Even if some analysts determined that a certain technology was not needed decades in the future, stakeholders who had an interest in that technology could present competing analyses to suggest that it would be needed after all. The next chapter explores how disagreements about future energy needs intersected with the Carter administration's energy policy, using the case of plutonium-based nuclear reactors. It also examines the limits of environmentalism's political power in the midst of energy crisis. Though environmentalists strongly opposed plutonium reactors, they were powerless to halt funding for them as long as there were reasonable concerns about future energy needs. After the oil embargo, nebulous American support for environmental values did not necessarily translate into policy successes.

Chapter 4: "Wandering in the desert": The Clinch River Breeder Reactor Debate in Congress

The United States Congress approved plans in 1970 for an experimental plutonium reactor on the Clinch River in East Tennessee and appropriated initial funds in 1972. Tennessee's representatives in Congress, especially the powerful senator Howard Baker, ensured that money kept flowing reliably for years afterward, much of which supported local engineering and design jobs. More than ten years after the initial appropriation and after continual infusions of cash for the reactor, Congress voted to discontinue further money, effectively ending the project. After an entire decade and more, although some of the necessary components had been built by an Indiana manufacturer and a portion of land had been cleared along the Clinch, no structures were ever installed. Hundreds of millions of dollars were spent developing the project, with nothing to show for the money save for some assorted reactor parts sitting in a Midwestern warehouse, along with a bare spot of land in East Tennessee. This chapter examines the political debate surrounding the Clinch River breeder from the Nixon administration's attempted cancellation in 1973 to the project's ultimate demise in late 1983.[1] It argues that the intensely localistic concerns of federal money and jobs transcended the competing ideologies at the heart of energy policy in the late 1970s, and that these localistic concerns also helped derail the Carter administration's attempts to streamline US energy policy in the late 1970s. It also shows that, in the same time period, environmentalism's political power declined in the face of energy concerns.

[1] A brief history of the early breeder program from its 1955 inception can be found in Glenn T. Seaborg, *The Atomic Energy Commission under Nixon: Adjusting to Troubled Times* (New York: St. Martin's Press, 1993), 151-89.

The breeder debate created strange coalitions among political interest groups. The standard intellectual history of environmental debates in the late 1970s nearly always pits environmentalists on one side against conservative thinkers on the other. Environmentalists concerned with endangered species and the fate of pristine wilderness advocated for strong federal intervention to protect the interests of the natural world, even at the expense of local property owners. They generally believed that the federal government was the appropriate body to assume control and protection of environmental quality, arguing that a strong and centralized effort was necessary to counteract the rampant destruction of the natural world. Conservative intellectuals and think tanks countered that this environmental approach was wrong, for two reasons. First, it was legally wrong, since federal regulations enabling environmental protective actions without compensation unduly deprived landowners from using their own private property as they desired, a violation of constitutional rights.[2] Second, it was misguided and ineffective, since localities and landowners could be wiser and more efficient stewards of their own surroundings than some distant federal regulator ever could.[3]

The breeder controversy made political allies out of these two seemingly antagonistic groups. Environmentalists argued that plutonium was much more dangerous than uranium and that even a tiny amount of plutonium waste released into the environment could yield catastrophic consequences. As the estimates of the project's final cost ballooned in the early 1980s, conservative think tanks and political

[2] See, for example, Richard Epstein, *Takings: Private Property and the Power of Eminent Domain* (Cambridge: Harvard University Press, 1985).
[3] See, for example, Terry L. Anderson and Donald R. Leal, *Free Market Environmentalism* (San Francisco: Pacific Research Institute for Public Policy, 1991). See also Brian Allen Drake, *Loving Nature: Fearing the State: Environmentalism and Antigovernment Politics before Reagan* (Seattle: University of Washington Press, 2013), 114-38.

organizations broke with Reagan and spoke out against the project. The alliance of environmentalists with anti-tax conservative groups against the technology in the early 1980s spurred a shift in congressional sentiment that finally led to the breeder's demise. Competing ideologies took a backseat to the vagaries of practical politics in the breeder debate. More importantly, the breeder battle exposed the limits of environmentalism's political power in the 1970s. Though Americans broadly claimed to support environmental principles, environmentalist groups were unable to halt or even cut back funding for the breeder until fiscal conservatives in Congress turned against the project. The history of the breeder suggests again that public support for environmental values did not necessarily translate into policy successes after the oil embargo made energy a more pressing priority.

Examining the breeder debate also advances our understanding of nuclear politics and the role of expertise in making public policy in the postwar United States. In one of the seminal analyses of nuclear power in the United States, historian Brian Balogh focuses on the period from 1945 to 1975 as a time when "professionals and administrators" guided the course of nuclear development and "staked proprietary claims to this new federal policy." An "unprecedented reliance on expert guidance" directed the course of nuclear politics, with focused and insulated congressional committees providing close support to nuclear development. The decline of nuclear power, Balogh argues, came when the vast proliferation of experts reached its logical conclusion and generated a critical overload of information going out to the public. With so many scientific and social-scientific fields of possible expertise, each with its own assumptions and epistemologies, it was inevitable that the opinions of experts from different

specializations would come into conflict with one another. Regular citizens were understandably ill-equipped to evaluate competing experts' claims, and thus expertise itself lost its influence in the eyes of the general public. If trained experts could not agree on virtually any complicated issue, in other words, then expertise itself had little practical value.[4]

Balogh ends his analysis in 1975, with "policymakers…deadlocked" and "experts seemingly on all sides of every issue."[5] Using the example of the breeder reactor to extend Balogh's chronology helps reveal what happened next. Pork-barrel politics in Congress took over, with legislators standing to benefit from nuclear dollars wresting the debate out of the hands of experts and pushing to construct projects that much economic analysis said was not needed. Congressional breeder proponents' power to guide the US nuclear program as they saw fit was vast. Balogh focuses on insulated science and technology subcommittees to explain nuclear power's rise, but after his period of interest, it was the contentious floors of the House and Senate that instead held the fate of nuclear politics. Tennessee politicians, to whom the breeder meant economic opportunity for their constituents, guided the debate at all times.[6]

The US energy economy was rocked by surprises in the 1970s with the 1973 OAPEC embargo and oil crisis and the 1979 Iranian Revolution. US policymakers sought to secure greater security in the international arena, negotiating and coordinating with a

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[4] Brian Balogh, *Chain Reaction: Expert Debate and Public Participation in American Commercial Nuclear Power, 1945-1975* (New York: Cambridge University Press, 1991), 302-11.
[5] Ibid.
[6] The period from 1970-1979 in the US Congress witnessed a number of reform measures, the side effects of which included a shift in power from individual committee chairs to centralized party leadership. This shift allowed Tennessee's powerful senator Howard Baker to exert a measure of control over the fate of the Clinch River reactor in a way that would have been nearly impossible a few years before. On the changing structures of power in the US Congress in these years see Julian Zelizer, *On Capitol Hill: The Struggle to Reform Congress and Its Consequences, 1948-2000* (New York: Cambridge University Press, 2004), 2-11.

number of foreign nations to maintain energy sustainability. But as historian Thomas Sugrue has written, it has been "striking how few social scientists and historians have grappled with the implications of localism for the history of the modern American state."[7] The history of energy provides a prime opportunity to respond to Sugrue's questions about the tensions between localism and centralization that were intrinsic to the state-building efforts of the twentieth century. Energy is certainly a historical subject with myriad transnational and international dimensions, but it is also a commodity that is ultimately produced and consumed in a highly localized manner. The politics of localism impinged upon the national and international dimensions of energy politics in a way that historians have yet to probe fully. In the case of Clinch River, Congress' continued appropriations for the breeder created disastrous complications for Carter's attempts to encourage European nations to pursue plutonium nonproliferation. The local politics of the breeder came to have far-reaching effects that stretched beyond Tennessee, ultimately into the domain of international relations.[8]

The breeder debate is also a reminder of the continuing importance of local politics in the postwar United States. Even with the federal government's massive growth and bureaucratization through the course of the New Deal and World War II, representatives in Congress still had an overriding need to deliver services to local constituents in order to secure their own chances for re-election. The efforts of Tennessee's congressional delegation kept the breeder going long after most rational

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[7] Thomas Sugrue, "All Politics is Local: The Persistence of Localism in Twentieth-Century America," in Meg Jacobs, William J. Novak, and Julian E. Zelizer, eds., *The Democratic Experiment: New Directions in American Political History* (Princeton: Princeton University Press, 2003), 300-26.

[8] As Sugrue suggests, more research is needed to discover exactly how, despite the unprecedented growth of the state after World War II, local interests were able to play a role in "shaping and constraining" federal policy. See ibid, 303.

economic analysis had recommended it be discontinued. The effort created some very odd sights indeed. For example, Al Gore, who would later become one of the most prominent anti-nuclear voices in the world, strongly supported the Clinch River project alongside his Tennessee colleagues. Congressional desires to preserve federal jobs near Oak Ridge, Tennessee, drove a sizable component of US nuclear policy in the late 1970s and early 1980s. To be sure, the Clinch River debate intersected with other aspects of nuclear power in the late 1970s, including safety concerns, declining energy demand, and plummeting uranium price. But the Clinch River case also shows that, when it came to the international dynamics of energy policy, intensely local concerns still mattered too. Carter's multiple failed attempts to kill the breeder caused his public image to suffer accordingly, and represented another blow to his attempts to convince Americans to trust his energy plans. With Americans generally unable to evaluate and adjudicate competing scientific claims, Carter became merely one voice among many. The breeder debate further impeded his ability to implement and execute his energy agenda.

The Promise of Breeder Technology

Following the end of World War II, the Oak Ridge National Laboratory, site of the Manhattan Project's uranium enrichment, served as a major federal center of scientific and technological research under the supervision of the Atomic Energy Commission. In the midst of the 1973 energy crisis, the Nixon administration took steps to eliminate experimental energy programs that it concluded were not sufficiently promising, a decision that impacted the research center. Nixon's assessment, and the implications it would hold for the high-paying jobs at Oak Ridge, drew the attention of

Tennessee politicians, most notably Howard H. Baker, Jr., a prominent Republican senator. Baker and other Tennessee legislators protested general cuts in technological funding, but reserved special disdain for the administration's decision to terminate a Molten Salt Breeder Reactor (MSBR) on the Clinch River. The MSBR was one of two backup efforts to another major experimental nuclear project on the Clinch, the Liquid Metal Fast Breeder Reactor (LMFBR). The MSBR was deemed the less promising of the two reserve efforts and found itself under the budgetary axe.[9]

Proponents of breeder technology had claimed that the concept posed an ideal solution for future energy needs because of its ability to extend dwindling supplies of fissionable uranium nearly indefinitely. They argued that breeder technology possessed the capacity to extract *sixty times* as much energy from uranium ore than could conventional reactors, and thus, even without any further mining, could supply the US with electricity for two hundred years just from uranium "tailings" already stored as waste. This striking efficiency derived from the breeder's use of plutonium to continually regenerate fuel. Conventional reactors, breeder boosters noted, subjected to the fission process uranium-235, an isotope that splits when struck by a neutron at low speed, giving off heat. Water under high pressure both slowed down the neutrons and then carried off the heat to a steam turbine in order to generate electricity. But such reactors depended on the scarce U-235, which made up only 0.7 percent of uranium ore. The rest existed as a heavier isotope, U-238, which does not fission.[10]

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[9] Frederick V. Maick to Howard H. Baker, Jr., 28 February 1973, box 10, folder 4, Bill Brock Papers (hereafter BB), Howard H. Baker, Jr. Center for Public Policy, University of Tennessee; Press Release, 14 March 1973, ibid.

[10] *New York Times*, 10 March 1981.

By contrast, the breeder design made productive use of this plentiful U-238. The core of a breeder reactor consisted of plutonium fuel rods surrounded by a "blanket" of U-238 atoms waiting to be "impregnated" by neutrons shot off from the plutonium. Each time an atom of Pu-239 was made to fission, in theory, it would give off heat to turn water into steam for electricity production, but the Pu-239 atom would also emit two or three neutrons. One of these neutrons would hit another Pu-239 atom in the core, sustaining the reaction, but the remaining one or two neutrons would be captured by the "blanket" of U-238 atoms, each of which would be then transmuted into Pu-239, the very fuel the reactor had started with. The breeder process thus generated both energy and still more plutonium-239, more indeed than the reaction had begun with. The plutonium in the core would be "spent" at the end of the reaction and would have to be disposed of, but the new Pu-239 could be used in future reactions, and all that was required was fresh U-238, of which there was no shortage. The breeding ratio at Clinch River was expected to be 1.24, meaning that the reactor would produce 1.24 atoms of Pu-239 for every one that it consumed.[11]

In theory, then, by producing more Pu-239 than it had started with and by making use of the abundant U-238, the breeder could serve as a self-sustaining source of energy and fuel the creation of electric power for years and decades into the future, decreasing US dependence on foreign oil. But the final outcome was necessarily uncertain. New scientific technologies often see their costs fluctuate rapidly throughout the development process as unexpected roadblocks arise, and it is nearly impossible to know if a technology that seems to work in theory will actually function properly in physical form. The breeder idea was a gamble from the start. The Nixon administration, determining that

[11] Ibid.

the technology would be neither ready nor needed until many years later, took the steep immediate cost as a signal to abandon the less-promising MSBR and simply write off the money already spent. Baker and Tennessee's other senator, Bill Brock, subsequently pledged in tandem to "rededicate" their efforts to obtain funding for the MSBR, as well as a radio-isotopes program that also faced elimination. They made the primary reason for their efforts abundantly clear, citing the termination of the approximately seven hundred employees that would occur should the cuts go through. Nixon's staff in the Office of Management and Budget replied tersely that they were "not unaware" of the "difficulties imposed on the affected personnel" as a result of the termination of the MSBR, but reiterated the fiscal logic of shutting it down.[12]

Advocates claimed that the breeder's recycling of plutonium waste made it more environmentally friendly than traditional reactors. The breeder's use of plutonium in place of the uranium used by traditional reactors, however, drew prominent environmentalist critics, since in small amounts plutonium is many times more deadly than uranium. Consumer advocate and anti-nuclear spokesman Ralph Nader penned a scathing June 1975 editorial in the *Chicago Tribune* warning against the use of the "fiendishly toxic" element of plutonium in the breeder design. Though Nader opposed nuclear power broadly, he singled out the breeder technology for special criticism. "A millionth of a gram [of plutonium] has caused cancer in laboratory animals; police state measures will be necessary" to control the dangerous substance, he predicted.[13] Famed

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[12] Maick to Baker, 28 February 1973, box 10, folder 4, BB; Press Release, 14 March 1973, ibid. See also *New York Times*, 6 June 1977.

[13] *Chicago Tribune*, 5 June 1975. On Nader's broader anti-nuclear stance, see especially *Los Angeles Times*, 29 April 1975, in which he criticized the perceived "secrecy and censorship" of the Atomic Energy Commission and Nuclear Regulatory Commission and accused them of colluding with private industry to cover up the risks of nuclear power. Nader's criticisms are outlined at length in Ralph Nader and John Abbotts, *The Menace of Atomic Energy* (New York: W.W. Norton & Company, 1977).

biologist Barry Commoner estimated in 1976's *The Poverty of Power* that if the US nuclear power program adopted the breeder design as its base in the future, nationwide nuclear power generation would involve about 130 million pounds of plutonium. If only one one-millionth of this material were to be released into the environment over the course of normal operations, Commoner said, it would generate 1600 new cases of cancer per year. The release of four parts in ten thousand, according to Commoner, would generate *600,000* new cases of cancer every year.[14]

Nader's and Commoner's exhortations seemed to gain little traction initially. Despite plutonium's dangers, the environmental journalist and lawyer Sheldon Novick declared in a 1976 analysis of the nuclear industry that the experimental LMFBR likely represented "the next stage in nuclear development" in the United States, given its bright promise for recycling fuel.[15] The breeder appeared to be firmly ensconced as an integral component of US energy policy moving forward. However, the presidential election of 1976 changed the situation quickly and dramatically. After the short Gerald Ford presidency came to end at the hands of Jimmy Carter, the newly-elected Georgian moved even more forcefully than Nixon to shut down not only the backups to the LMFBR, but the LMFBR itself. The significant amount of raw plutonium involved in the breeder's operation unnerved politicians worried about nuclear proliferation, especially the new president. For the same reason, Carter also opposed the development of technologies to reprocess spent nuclear fuel for reuse.[16] The federal Energy Research and Development

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[14] Barry Commoner, *The Poverty of Power: Energy and the Economic Crisis* (New York: Alfred A. Knopf, 1976), 94-95.
[15] Sheldon Novick, *The Electric War: The Fight Over Nuclear Power* (San Francisco: Sierra Club Books, 1976), 281.
[16] On the congressional debate on the breeder during the Ford administration see Nader and Abbotts, *The Menace of Atomic Energy*, 284-85.

Administration (ERDA), the Tennessee Valley Authority (TVA), and a group of private utilities, were jointly financing the project and would lose their investments if the Clinch River project were cancelled. They were all dismayed by the decision and mobilized to stop it.[17]

Carter Pulls His Support

In April 1977, soon after taking office, Carter declared that the United States would halt construction of the reactor as part of an appeal to other countries to renounce plutonium themselves.[18] Carter was a Democrat, a party that included many anti-nuclear politicians, most notably Earth Day co-founder Gaylord Nelson of Wisconsin. But the new president himself was not quite so predisposed against nuclear power, claiming in 1977 that he considered nuclear power a major frontline energy source rather than a last resort. Nonetheless, he felt strongly that this specific project was not worth funding and could in fact be quite dangerous to long-term national security. According to Carter and other commentators, the spent plutonium from the breeder design was much easier to convert into weaponized form than spent uranium from more traditional reactors, and the breeder would prove much more dangerous to international stability than reactors that created uranium waste.[19]

Other criticisms of the breeder centered on the fact that West Germany, Britain, and especially France were further along in developing the breeder technology and would

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[17] Robert J. Duffy, *Nuclear Politics in America: A History and Theory of Government Regulation* (Lawrence: University Press of Kansas, 1997), 160.
[18] For the same reason, Carter announced the same month that the US would "delay indefinitely" the construction of the prospective Barnwell reprocessing plant in South Carolina, which would have separated fissionable plutonium from spent nuclear fuel. See James Mahaffey, *Atomic Accidents: A History of Nuclear Meltdowns and Disasters: From the Ozark Mountains to Fukushima* (New York: Pegasus Books, 2014), 419-20, for an account critical of this decision.
[19] Wilentz, *The Age of Reagan*, 79-80; Hays, *Beauty, Health, and Permanence*, 182.

likely be able to license it to the US at a lower cost than would be required for the US to develop the technology itself. Furthermore, by the time the complicated technology was completed, it might not even be needed, since some better alternative would likely be available.[20] Carter continually invoked these two critiques, the proliferation threat and murky cost-effectiveness, in his anti-breeder push. Though Carter especially emphasized the nonproliferation argument early in his term and shifted to an emphasis on cost inefficiency later in his presidency, he consistently cited both throughout his years in office.

Carter's passion for ending the project cannot be questioned. But from the beginning of its involvement in the breeder debate, his administration seemed to struggle to understand basic facts about the reactor. The administration subsequently gave off mixed signals about the project in the media, weakening its negotiating position vis-à-vis breeder proponents. For example, on April 7, Carter released a statement declaring that the reactor would be cut back to an "experimental basis," which conflicted with other declarations in which he had said that the project would be ended completely. In the question-and-answer session that followed this particular pronouncement, Carter suggested that he was open to an option that did not involve complete termination of the Clinch River plan, suggesting that a uranium enrichment facility intended for addition to a gaseous diffusion plant in Portsmouth, Ohio, might be constructed at the Clinch River site instead. Jessica Tuchman, Director of the National Security Council's Office of Global Issues, later informed the president that such a plan was "technically impossible,"

[20] *New York Times*, 25 February 1978.

as the proposed enrichment facility was not designed to be free-standing.[21]

Likewise, on February 8 a group of Princeton scientists had written the newly-inaugurated Carter suggesting that he consider adapting Clinch River to experiment with thorium cycling instead, which would keep the facility operating but minimize the proliferation problems presented by plutonium cycling. However, in an April 16 Cabinet Room general meeting to resolve issues in the energy program, when Science Adviser Frank Press recommended to Carter that he consider adapting Clinch River to experiment with thorium instead of plutonium, Carter seemed confused and responded merely by indicating "that this option had not been presented to him before." According to Carter's staff secretary's records, there was no evidence that the president had ever received the Princeton letter, read it, or referred it to his staff.[22] With the relevant information so badly delayed by administrative disorganization, this idea seems to have never received any serious consideration. By the time it came to the attention of pertinent staff, the dynamics of the debate had progressed in other directions.

The administration's troubles in managing the flow of information notwithstanding, the project drew intense skepticism from a number of national periodicals, many of which adopted President Carter's criticisms. A June 1977 *Washington Post* editorial, for example, castigated the breeder, calling it a "peculiarly ominous symbol." The editorial argued that, if the project was built, the "main damage" inflicted upon the US would be not the plutonium waste itself but "the signal that it sends to the rest of the world." No scientific knowledge would be lost should the breeder be

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[21] Decision Analysis Report, Case Study: Breeder Reactor Program, RAC Project, NLC-126 [Office of the Staff Secretary]-7-25-3-4, Jimmy Carter Presidential Library, 118. A gaseous diffusion plant creates enriched uranium by forcing uranium hexafluoride, a gas, through semipermeable membranes.
[22] Ibid, 113.

cancelled, the *Post* opined. The only purpose of the project was to demonstrate on a commercial scale the breeder process already in operation at a smaller test facility in Hanford, Washington, but there were other, safer options for future commercial use. Instead, if the project was built, it would mean that Congress was undercutting President Carter's wishes, which would "knock the bottom out of the President's attempts to restrain the proliferation of plutonium" – and the weapons made out of it – "throughout the world." If Congress authorized funds for the reactor, the *Post* darkly predicted, European nations might see Carter's position on non-proliferation as nothing more than a ploy to delay European nuclear development in order to allow the United States to pull into the technological lead.[23]

As might be expected, Tennessee's congressional delegation was loath to let a multibillion-dollar project sponsoring scores of local jobs die so quickly. In June, in the Senate's Subcommittee on Public Works, Senator Sasser proposed a $150 million appropriation, a compromise between the $237 million that President Ford had requested to continue the project and the $33 million that Carter wanted appropriated in order to wind it down. Although a number of senators indicated their support for the compromise, Chairman John Stennis (D-MS) decided to wait another week to put it to a vote.[24] Stennis' delay gave the breeder's boosters time to plan their counteroffensive, and they mobilized to scuttle the compromise and ensure the full original amount of funding allocated for the breeder.

One of the most vocal senators in favor of the project was Frank Church (D-ID), dubbed "Capitol Hill's star player" in the Clinch River saga by the *Washington Post*.

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[23] *Washington Post*, 22 June 1977.
[24] *Washington Post*, 11 June 1977.

Church, for his part, argued that two experimental breeders – EBR-1 and EBR-2 – had already been making plutonium and power quite safely for twenty years in Idaho. The viability of breeder technology had indeed been proven in 1953 when it was discovered that EBR-1 was producing additional fuel during the fission process, a result that had not been anticipated. Church supported the construction of the Clinch River facility as a larger and more advanced manifestation of this proven underlying idea. Church's liberal environmentalist past as the floor sponsor of the 1964 Wilderness Act had caused White House aides to believe that he would be against the project. They attributed Church's support for the plutonium breeder to the $500 million in research grants that Idaho would receive for ongoing research on the EBR reactors should the Clinch River reactor stay on the books. His vehement support for the breeder project stood in stark contrast to his extant legislative career, to that point filled with sharp accusations of corruption aimed at entities ranging from the Pentagon and the US intelligence apparatus to private corporations.[25]

In July, the Congress set the project aside momentarily to consider Carter's critiques, and another column in the *Washington Post* took the opportunity to again argue against continued funding, once more on national security grounds. It asked the Congress to take the opportunity to undo the mistakes of the past. "For years, mindlessly, we promoted abroad the very technology [plutonium] we have now recognized as dangerous…We oversold it." And now part of America's obligation, the *Post* proclaimed,

[25] *Washington Post*, 15 June 1977; *Chicago Tribune*, 18 July 1977. With obvious hyperbole, Church also accused Carter of leading the country toward "nuclear isolationism" and "nuclear anarchy." Church gave an extended speech supporting the breeder in England on June 18, 1977, excerpts of which can be found in *Washington Post*, 1 July 1977. Church's liberal past was well-documented; according to former Senate staffer Ira Shapiro, Church made his name as one of the most vocal critics of the Vietnam War and had also "always distrusted large corporations, which he equated with the lumber and mining companies that came into Idaho to extract its natural resources." See *The Last Great Senate: Courage and Conviction in Times of Crisis* (New York: PublicAffairs, 2012), 122-24.

was to undo "some of the distortions of that oversell." The United States, it said, could hardly hope to convince the Europeans and Japanese to turn away from a plutonium-cycle future if it itself was unwilling to abandon such a path.[26] The *Post* saw the domestic debate over the breeder reactor as a turning point, arguing that continued funding would unleash grave danger in the international arena. No longer able to trust the United States, the newspaper darkly predicted, America's allies would develop unstable and perilous technologies, exhortations to do otherwise falling on unhearing ears.

The middle of 1977 also saw the public release of a report authored by Burns and Roe, the architectural-engineering firm running the project. The 42-page report had been written in 1973 but kept confidential for several years, and it was very critical of the project's management and execution. The proposed site at Clinch River was, in the words of the report, "one of the worst ever selected" for a nuclear plant. Varying rock conditions, voids and cavities pockmarking the landscape, and questions about slope stability were all concerns, any one of which could render the site unacceptable. Finally, the document predicted safety problems for the reactor due to infighting between regulatory and research staffs within the AEC that could not agree on safety standards.[27] In a terse statement before a Senate subcommittee on nuclear regulation, Burns and Roe's vice president declared that, "contrary to misleading impressions left by the media," the issues highlighted in the 1973 report had been largely remedied in the intervening four

[26] *Washington Post*, 24 July 1977.
[27] Deborah Shapley, "Engineer's Memo Stirs Doubts on Clinch River Breeder," *Science*, New Series 197:4301, 22 July 1977, 350-52.

years. Given later problems with the site's physical condition, though, there was reason to doubt the honesty of Vice President Young's comforting reassurances.[28]

Though the public release of the report was intensely embarrassing, it was also surprisingly inconsequential. The July delay proved to be short-lived, even in spite of the multi-layered criticism. On September 20, the House of Representatives voted down an administration proposal to defund the reactor entirely, then proceeded to allocate $80 million to continue the project. House Speaker Tip O'Neill claimed to be disappointed by the vote. It is impossible to know why each member of the House voted the way they did, but what seems clear is that post-1973 fears of energy crisis, along with the longstanding practice of legislators to support one another's local projects, combined to produce a congressional majority in favor of the project. The debate had taken a notably bizarre turn when Thomas Downey (D-NY) held up "what appeared to be a soccer ball with holes into which plutonium could be placed," menacingly demonstrating to his colleagues "[h]ow simple it is to make a nuclear weapon." Mike McCormick (D-WA) seemed to speak for the majority view, however, in downplaying the risk of nuclear proliferation. "The fact is that there are three dozen nations today that could make nuclear weapons for $50 million, 5 percent of the cost" of the cheapest possible breeder reactor, he claimed, and ending the breeder would not make a difference in Carter's efforts toward plutonium nonproliferation.[29]

The *Los Angeles Times* disagreed with McCormick's analysis, calling the vote "shockingly irresponsible" and claiming that Carter's campaign to prevent the spread of

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[28] Summary of Statement of W.H. Young, Vice President Burns and Roe, Inc., to Subcommittee on Nuclear Regulation of Committee on Public Works, United States Senate, July 11, 1979, box 145, folder Clinch River Breeder Reactor (2), 1977, Marilyn Lloyd Papers (hereafter ML), Special Collections, University of Tennessee at Chattanooga.

[29] *New York Times*, 21 September 1977.

nuclear weapons would be "hopelessly undermined." It emphasized the risk of plutonium waste falling into the clutches of malevolent non-state actors, a risk that McCormick had not addressed. The *New York Times* struck a similar tone, calling the vote "an excellent target for Mr. Carter's first veto." Leading scientists also joined the debate. Edward Teller, one of the world's foremost nuclear power advocates, was less concerned about proliferation but more worried about the technology's future effectiveness. A significant voice due to his longstanding support for nuclear power even in the face of intense opposition, Teller joined in the tide of criticism and dubbed the Clinch River project obsolete before it had even been started, arguing that more promising alternatives were readily apparent. Though breeders promised to produce fuel indefinitely, developing the technology was, as rising cost estimates indicated, incredibly expensive. By the time the technology was needed decades in the future, Teller claimed, a better and safer alternative would almost certainly be available.[30]

Congress Adapts

At the end of October, following the House's vote, the Senate's Appropriations Committee voted to require Carter to spend $80 million to keep the breeder project alive for at least another year. Although Carter vetoed this bill, both chambers later added the funds to a larger $6.8 billion appropriations bill, meaning that dozens of other federal programs would die alongside the breeder should Carter again exercise his veto power.[31] After this vote, the *New York Times* disappointedly dubbed the breeder "the reactor that would not die." Carter was in a bind. The *Washington Post*'s early prophecy looked

[30] *Los Angeles Times*, 22 September 1977; *New York Times*, 6 October 1977. On Teller's vehement support for nuclear power see Allitt, *A Climate of Crisis*, 109-10.
[31] *Washington Post*, 29 October 1977.

likely to come to fruition: The president's initial promise not to build the reactor had been greeted with cynicism in Europe, because the perception there was that Washington was trying to get other industrial powers to renounce a technology in which they led and the United States lagged behind, giving the US time to catch up.[32] Were Carter to backtrack now, it would have granted great credence to these theories about the ominous nature of US intentions.

Carter's only options besides simply signing or vetoing the bill were to ask Congress to defer the use of the money or to propose that Congress rescind the appropriation for the breeder only. Given the breeder's popularity in Congress, both options seemed incredibly unlikely. The *New York Times* declared that Carter must either "deliver an early finishing blow" to the breeder or "find a graceful way to yield" to the demands of Congress. Continuing the constant demands to defund the project only to be very publicly rebuffed, though, could only harm the president's domestic political standing.[33]

The president felt compelled to sign this bill for the sake of the other appropriations and did so. But after negotiating with key House members, the administration came up with a new compromise that it hoped would end the impasse. The funds allocated for the plutonium breeder in the coming fiscal year would instead be used to build a smaller, demonstration breeder reactor to be powered by uranium instead of plutonium. In addition, Congress would allocate an additional $160 million to a two-year design study for a larger, different breeder based on some other fuel than weapons-grade

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[32] *New York Times*, 25 February 1978. In a classified memorandum, Carter's National Security Adviser expressed similar warnings about the effects of Congress' actions on relations with Europe. See Memorandum for the President from Zbigniew Brzezinski, "NSC Report for 1977: A Critical Appraisal," 12 January 1978, RAC Project, NLC-128 [Plains File]-9-13-5-1, Jimmy Carter Presidential Library, 23.
[33] *New York Times*, 25 February 1978.

plutonium. To alleviate fears of local job losses in East Tennessee, Energy Secretary James Schlesinger promised that this proposed study plan would employ ninety percent of the professionals currently on the Clinch River design team.[34]

The *Los Angeles Times* voiced support for the compromise, claiming that, should the design study prove successful, "the technology could be made available to other countries that are genuinely convinced that breeder reactors are essential to meeting their future energy needs" without increasing the risk of plutonium dangers. It advised Carter to use his scheduled April trip to Oak Ridge to argue "that, if a breeder reactor is to be built in Tennessee, surely it's better that it be one that will contribute to a safer rather than a more dangerous world." Likewise, Walter Flowers (D-AL) "hailed" the compromise as an opportunity to break the impasse. However, Marilyn Lloyd (D-TN), in whose district the Clinch River facility would be built, was skeptical. She deeply distrusted the administration's motives. Redirecting the funds toward a study, she feared, might simply be a stalling tactic, and an actual facility might not ever be built. The bill also split anti-nuclear advocates in the House, with some opposing funding for *any* breeder plant, and others seeing the compromise as a way to end the controversy and move on to other energy issues marginalized by the breeder battle.[35]

Less than a month later, Representative Lloyd offered an amendment to the 1979 fiscal year authorization for the Department of Energy to reject the administration's

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[34] *Los Angeles Times*, 19 March 1978, 22 March 1978. One way to account for potential variability in the estimated benefit of a technology like a jet engine is to build a demonstration model and see how it functions in practice, but in the case of a massive technology like a giant power plant, building a full-scale breeder is impossible. The smaller demonstration model was therefore meant to begin initial tests on effectiveness. See Alvin M. Weinberg, *Nuclear Reactions: Science and Trans-science* (New York: American Institute of Physics, 1992), 6.

[35] Ibid.

compromise and authorize $172.5 million to fund the breeder for another year.[36] With anti-nuclear forces divided and pro-breeder advocates united, the amendment passed. Mike McCormick claimed boldly that the vote indicated "It's time now for the administration to recognize the Congress is not going to roll over and play dead on the breeder." Expressing his own support for the project, Representative Barry M. Goldwater, Jr. (R-CA), son of the former Republican presidential candidate, pointed to the widespread United Mine Workers' strike interrupting coal shipments as evidence that nuclear power had to receive even greater emphasis in US energy strategy going forward.[37] In Goldwater's eyes, the unreliability of militant coal miners made developing the more dependable nuclear power option necessary, even given the increased risks of disastrous public health hazards. Goldwater's affinity for Clinch River likely came also from the possibility that a general discrediting of nuclear power in the public eye would have damaged the future fortunes of the San Onofre nuclear station in San Diego County, which had itself recently taken a public relations hit after security and safety questions.[38]

John Wydler (R-NY), the ranking minority member on the House's Committee on Science and Technology, wrote Carter that same April to warn about the nuclear progress that America's Cold War adversary was achieving. Wydler had conversed with high-ranking Soviet officials in Moscow during the last week of March. The information conveyed was alarming. During the visit, the Soviets had victoriously touted the 350-megawatt breeder plant that had been operating on the Caspian Sea for three years, as

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[36] Lloyd sent a strongly-worded letter to her colleagues on the House's Science and Technology Committee calling Carter's breeder policy "mis-directed" and asking them to vote for the amendment. See Marilyn Lloyd to Colleague, box 146, folder Clinch River Breeder Reactor (5), 1977-1978, ML.
[37] *Washington Post*, 13 April 1978.
[38] See *Los Angeles Times*, 8 May 1976, which reported the construction of a new containment sphere for the San Onofre plant after it was learned that the existing dome was insufficient to contain safety hazards to nearby beachgoers.

well as their plans to complete and begin operation of a massive 600-megawatt plant in 1980. "I think you will agree," Wydler warned President Carter, that the US's own program paled in comparison to the aggressive approach pursued by the Soviets. "It is frightening to speculate on the degree of control of the world market" for distribution of breeder technology that the US's Cold War adversaries might achieve by successfully implementing their program.[39]

By contrast, Representative Wydler warned, the US was foolishly "limping indecisively" on the nuclear option. Imperative action was necessary to counter this ominous trajectory. He advised the president to immediately "commit strongly" to breeder technology to head off Soviet hegemony in the nuclear sphere.[40] That Wydler may have been subject to a carefully choreographed and possibly exaggerated presentation to hype the Soviet nuclear program and intimidate the Soviets' Cold War enemy seemed not to have occurred to the representative. In fact, a long 1983 exposé in the *Atlantic Monthly* on the problems within the US breeder program also revealed that the Soviets had experienced "greater than expected" problems with their own efforts and had scaled back their previously-bold plans.[41]

Wydler's demands that the breeder be continued rested on an ideological belief that the US must not fall behind the Soviet Union in the development of any nuclear-related technology. It may be surprising at first that weapons concerns did not also figure more prominently in US fears, given the decades-long nuclear standoff between the two nations. Yet by the late 1970s, the US and the Soviet Union each possessed a stockpile of

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[39] John W. Wydler to The President, 4 April 1978, box 145, folder Clinch River Breeder Reactor (3), 1978, ML. On the history of the Soviet breeder program see Paul R. Josephson, *Red Atom: Russia's Nuclear Power Program from Stalin to Today* (Pittsburgh: University of Pittsburgh Press, 2005), 47-80.
[40] Ibid.
[41] See "Dream Machine," *The Atlantic Monthly*, April 1983, 85.

weapons that could virtually wipe the other off the face of the planet. In this context, the main concern for each nation was that the other could launch a rapid and comprehensive attack to wipe out main cities and missile storage areas before there was even a chance to react or respond. The nuclear arms race between the two nations in the 1980s therefore centered on building sleeker, faster, and more accurate missiles with a bigger payload in the warhead, along with developing reliable missile defense systems.[42] Since the Soviet Union already had thousands of nuclear weapons, any fear that it might use the breeder to create more nuclear material for military use would be redundant. For Carter and other critics of the breeder, the technology's primary danger was always that plutonium shipments could be compromised on the way to or from a power plant, and then given either to non-nuclear states or non-state actors.

Next Steps

In early June of 1978, the Senate Energy Committee resurrected the compromise plan rejected in the House, voting to allow Carter to scrap the breeder if he planned for an alternative. Administration officials, exasperated with the ongoing controversy, frustrated with the House's perceived intransigence, and continuing to demand the project's unconditional cancellation, indicated that the proposal did not go far enough and could invite another presidential veto. However, Carter himself indicated his approval for the compromise the next month. To assuage congressional fears that the administration would stall the design study of the alternative demonstration breeder reactor until it simply died, the vote required that the study be completed by March 31, 1981. Opponents

[42] See David E. Hoffman, *The Dead Hand: The Untold Story of the Cold War Arms Race and Its Dangerous Legacy* (New York: Random House, 2009), 13-26.

of the breeder seemed hopeful that this would *finally* conclude the controversy. A few days later, though, during consideration of a $4.3 billion fiscal authorization for the Department of Energy, the House rejected the compromise, again reiterating its inflexible demand for full funding of the original project. The president was unsurprisingly shocked and disappointed, the political controversy seemingly no closer to resolution now than months or years before.[43]

Newspapers continued their assault on the reactor after the failed compromise, pointing to the lack of material results even after so much funding from Congress. A December 1978 story in the *Washington Post* reported critically that the site chosen for the breeder reactor along the river had yet to be even been cleared of trees. "Meanwhile," though, "fabrication of the huge pieces of machinery that were designed and ordered for Clinch River chugs along." At an Indiana plant that was manufacturing the reactor's components, construction of the 470-ton reactor vessel was reportedly 90 percent complete, which put it ahead of schedule. The stainless steel vessel designed to house the plutonium fuel bundle had already reached its full girth of 20 feet and its full height of 54 feet. "But when it is finished, in a few months, it will be placed in storage like an antique vessel that nobody wants."[44]

Most of the holdup in preparing the site traced back to the Nuclear Regulatory Commission (NRC), which required the breeder to meet strict safety licensing standards

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[43] *Los Angeles Times*, 9 June 1978; *Wall Street Journal*, 13 July 1978; *Chicago Tribune*, 15 July 1978. On the House Science and Technology's skepticism about this compromise plan see Olin E. Teague to The President, 16 August 1978, box 6, folder 8, Domestic Policy Staff - Kitty Schirmer and Erica Ward's Subject Files, Jimmy Carter Presidential Library. In this letter, the committee chairman asked that Carter meet with four or five members of the committee to address their "widespread uncertainty" about his true intentions. The chairman of the engineering firm Burns and Roe had written Teague in June to explain that he had met with Carter at the White House and was disappointed to find that Carter possessed "no flexibility" on the breeder. He urged Teague and the committee to continue funding for the original project. See Kenneth A. Roe to Olin E. Teague, 26 June 1978, ibid.

[44] *Washington Post*, 9 December 1978.

before construction could start. One of the side goals of the project had been to procure an NRC license to prove that breeders could meet federal health and safety standards, which would remove one of the key arguments against future breeder projects. But the contractors building the breeder had neglected this licensing goal. Breeder proponents seemed to have few answers to the disjuncture between the rapid manufacturing of the reactor itself and the lethargic pace of preparing its home on the Clinch River, lending growing credence to the complaints of critics who dubbed the project both a mismanaged mess and a waste of money.

The following spring brought a renewed administration push against the breeder. In the face of the compromise plan's failure, Carter and his staff returned to a hard-nosed approach favoring total cancellation. In April, Carter reiterated to his vice president, Walter Mondale – also, of course, the president of the Senate – that the $15 million per month being spent on the breeder needed to come to an end, and asked him for help in achieving this outcome. The same day, Secretary Schlesinger sent legislative language to Senator Henry Jackson (D-WA) that would remove basic authorization for the CRBR project and provide for "intelligent use" of those components that could be put to use in other nuclear designs. Attempts to combat the breeder in the Senate had little effect on continued support for the breeder in the more rambunctious House. Despite the administration's push, two days after these actions the House's Science and Technology Committee voted to proceed with initial construction on the Clinch.[45]

Carter's public statement the next day overflowed with irritation. Returning to his nonproliferation critiques, he called the vote a "significant setback to a rational and

[45] Jimmy Carter to Walter Mondale, 24 April 1979, box 96, folder Clinch River Breeder Reactor, 5/5/79-6/6/79, Office of Congressional Liaison Files, Jimmy Carter Presidential Library; James R. Schlesinger to Henry M. Jackson, 24 April 1979, box 249, folder Clinch River Breeder Reactor, 4/24/79-1/29/80, ibid.

responsible nuclear energy policy," since the vote would antagonize European nations that had trusted Carter's calls to abandon breeder technology. Carter publicly urged Congress to press ahead with uranium-fueled light water technology, an alternative to plutonium, and to ignore the "special interests" – namely, Tennessee politicians and utility companies – driving continued funding.[46] Carter's words must have come merely from frustration, as there was little reason to think that Congress would deviate from its support. The "special interests" were firmly in control.

It might be surprising that the nuclear meltdown at Pennsylvania's Three Mile Island plant in March 1979 did little to directly affect the breeder debate through the rest of 1979. The accident caused many American citizens who had been ambivalent about nuclear power to turn against it, and galvanized the national anti-nuclear movement to new levels of protest. Defenders of nuclear power raced to defend the industry. Yet there is evidence that the impact of TMI has been exaggerated in retrospect. It is true that no new nuclear plants were approved for decades following the accident, but declining energy demand in the late 1970s and early 1980s did more to contribute to this outcome. Indeed, the meltdown did not catalyze the shutdown of any other existing plants in the US, and in 1985, Consolidated Edison succeeded in obtaining NRC authority to restart the TMI-1 reactor despite public protest. (The meltdown had occurred in the TMI-2 reactor; both reactors had suspended operations after the accident.)[47] Though some communities took the TMI accident as a signal to resist future nuclear construction projects, Oak Ridge had long embraced its identity as an integral component of the

[46] Press Release, 27 April 1979, box 96, folder Clinch River Breeder Reactor, 5/5/79-6/6/79, ibid.
[47] See J. Samuel Walker, *Three Mile Island: A Nuclear Crisis in Historical Perspective* (Berkeley and Los Angeles: University of California Press, 2004), 209-44.

Manhattan Project, with the massive Y-12 plant lying just outside the town.[48] Residents embraced the idea of being at the forefront of a new nuclear technology. The prospect of the breeder being constructed near their community seems to have caused residents little worry, and Tennessee representatives pressed ahead full-heartedly with their support.[49]

Indeed, the Carter administration's position took another major blow in May 1979 when a report from the General Accounting Office (GAO), Congress' investigative arm, urged legislators to press ahead. The project appeared to be operating on sheer inertia at this point. Citing the fact that $674 million had already been spent on the project, the GAO concluded that terminating the project would represent an enormous waste of resources. The US should simply finish the project, it said, and reap whatever benefits might be salvaged at the end rather than simply lose what had already been expended. To support its pro-construction analysis, the report also addressed the risk of nuclear proliferation and asked the Carter administration to recognize practicalities. Other countries were proceeding with their own plans to build such reactors and would continue to do so whether or not the US developed its own technology, the GAO said. The US should not find itself stymying its own energy future since breeder technology was going to be a reality whether or not the US participated. Though plutonium proliferation might be a legitimate concern, the GAO argued, the idea that US refusal to support breeder research would make the world safer was simply wishful and foolish thinking. The GAO report also disputed administration contentions that the reactor was not large enough to

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[48] See Russell B. Olwell, *At Work in the Atomic City: A Labor and Social History of Oak Ridge, Tennessee* (Knoxville, University of Tennessee Press, 2004).

[49] This does not mean that TMI had no effect at all on the debate. Later, in the 1980s, when congressional opinion turned against the breeder, nuclear industry defenders like former Manhattan Project scientist Alvin Weinberg would voice their support for the breeder as part of a broader defense of nuclear power against safety concerns. But in press coverage of the breeder debate in 1979 and in Carter administration documents, references to Three Mile Island simply fail to appear.

be practical, since part of the point of the Clinch River project was to prove the feasibility of the underlying design before larger, more expansive reactors received funding allocations from the government.[50]

Two months later, in July, the *Washington Post* again criticized the Clinch River breeder and disputed the GAO's conclusions about the need to continue funding the project. The newspaper estimated that the break-even point (the point at which the revenue generated by the breeder would match the funds invested) would not come until 2020, when the design would be fifty years old. Channeling nuclear scientist Edward Teller's earlier critiques, the *Post* claimed that the breeder would end up as the "Model-T of reactors," more suitable for museum display than for practical use. "This year," the *Post* opined, "Clinch River should be sent once and for all to its grave." Later that month, though, the House voted down Carter's latest compromise plan. By a voice vote, it also rejected a proposal offered by Morris Udall (D-AZ) – a major congressional critic of nuclear energy in general – to kill the Clinch River complex without launching the new breeder project, which never had a chance.[51]

Another GAO report in May seemed to bear out at least some of Ralph Nader's ominous "police state" warnings from four years earlier. Although the Energy Department and NRC required special security measures for shipments of weapons-grade plutonium reached a specified quantity known as the "strategic level," the GAO warned that the theft of multiple shipments below that level could provide enough material to construct a bomb. The safeguards, the GAO said, also did not distinguish among enrichment levels of assorted plutonium quantities. Since less plutonium is needed to

[50] *Wall Street Journal*, 10 May 1979.
[51] *Washington Post*, 25 July 1979; *Wall Street Journal*, 27 July 1979.

build a bomb the more highly-enriched it is, shipments less useful for making a bomb might be protected while more useful shipments would not.[52] With hundreds of millions of dollars already spent on the project, this warning seemed to have little impact on the political debate.

The GAO's conflicting, divergent analyses of the complicated project seemed now to reflect the mindset of the president himself. In the middle of 1979, Carter gave off new, mixed signals about his ideas for the breeder's future, making all concerned interest groups suspicious. After years of losing battles with Congress, Carter proposed using the breeder's current funding to develop a more "modernized" version of the reactor instead of the current design, giving little indication of what exactly this meant. Part of Carter's new proposal was to delay construction to allow time to complete this redesign. He argued that declining energy demand meant that the breeder would be needed later than originally envisioned and that this delay would thus not negatively affect the project. The delay would instead, Carter argued, indeed lay the foundation for an increased chance of lasting success. But the president misjudged how his idea would be received. The reaction to this plan was not favorable at all. The nuclear industry, rather than welcoming the president's change of mind, instead saw Carter's move as simply another delaying tactic. Environmentalist groups unanimously abhorred this new position, saying that abandoning opposition to breeders was a dangerous and unprincipled sell-out to his

[52] General Accounting Office report, "Federal Actions Are Needed To Improve Safety and Security of Nuclear Materials Transportation," found in box 505, folder 1, Mike Gravel Papers, Alaska and Polar Regions Collections, Elmer E. Rasmuson Library, University of Alaska Fairbanks. On the national security concerns related to transporting plutonium waste see Gene I. Rochlin, *Plutonium, Power, and Politics: International Arrangements for the Disposition of Spent Nuclear Fuel* (Berkeley and Los Angeles: University of California Press, 1979), 247.

political opponents.[53] Though Carter had maintained the support of environmentalist groups throughout the breeder debate, with this new compromise proposal he lost their backing.

Through the rest of 1979 and the first few months of 1980, the politics surrounding the breeder proceeded according to this general pattern. Carter would try to forge some sort of compromise option to delay or kill the construction of the plutonium breeder, with the House insisting on reliable continued funding by including money for it within larger appropriations that Carter could not veto. For example, Carter recommended no money for the project in the Energy Department's budget for fiscal year 1981, but the House Committee on Science and Technology voted to include $155 million in the Department's budget instead. A veto would obviously have meant cutting off all funding to the entire Energy Department.[54] It would clearly take some kind of structural change to the situation to alter the underlying dynamics that had guided events on a steady path of conflict between the anti-breeder executive and the pro-breeder legislature for the past several years.

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[53] Environmental Study Conference Update, 17 July 1979, box 146, folder Clinch River Breeder Reactor (6), 1979-1985, ML. By this point, the administration had also backed away from its attempts to encourage European nations to abandon breeder technology. In May 1980, Carter's national security staff also noted that many other countries (Belgium, Italy, West Germany, the UK, France, and Japan, among others) remained as committed to breeder technology as ever. Because the US had a broader mix of indigenous natural resources (including significant amounts of natural U-235 in Colorado), the US possessed "more flexibility" in choosing a long-term energy strategy. It was for this reason, Carter's staff noted, that Europe and Japan had adopted a "more aggressive" posture on breeders and other advanced reactors, which the US would not necessarily be compelled to follow. See PRC Presidential Decision Paper, Nonproliferation Planning Assumptions, 12 May 1980, RAC Project, NLC-132 [NSC Institutional Files]-79-7-7-4, Jimmy Carter Presidential Library, 2, 20.

[54] *Washington Post*, 25 April 1980.

Reagan's Support and Changing Sentiments in Congress

The election of 1980 was just such a change, but not in a way that might have been expected given the new president's campaign rhetoric. The newly elected Ronald Reagan had come into office promising a rollback of government spending, and a long-delayed, over-budget, and ostensibly outmoded federal project appeared to be a prime target for cost-cutting measures. However, in February 1981, Reagan instead decided to put his backing behind the initiative and to propose completing the reactor. The new chief executive appeared to support the project as a favor to Senator Baker, who had become Senate Majority Leader with the Republican takeover of that body after the 1980 election. Reagan, of course, required Baker's help in moving his anti-tax and anti-regulatory agenda through the legislative process, and support for the reactor was a necessary price to pay to ensure Senate attention to his larger priorities.[55] In July, Reagan also announced that the US would stop trying to impede breeder development in Europe.[56]

Reagan's support for the project represented an embarrassment to his powerful budget director David Stockman, who as a congressman three years earlier had denounced the project both as "totally incompatible" with a free-market approach to energy and as a "large economic subsidy" to the power industry. Stockman's previous opposition notwithstanding, the project's future was now cast in "an entirely different light." The administration even promised to try to obtain an exemption from the National Environmental Policy Act, which normally would have required updating the analysis of the project's environmental impact with every major change in plans. The pro-breeder

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[55] *New York Times*, 26 February 1981, 10 March 1981; *Christian Science Monitor*, 23 July 1981.
[56] See Richard K. Lester, "Backing Off the Back End," in Alvin Weinberg, Marcelo Alonso, and Jack N. Barkenbus, eds., *The Nuclear Connection: A Reassessment of Nuclear Power and Nuclear Proliferation* (New York: Paragon House Publishers, 1985), 105.

statements coming from the new administration were welcomed by the numerous utility companies who held financial interests in the project and who had long dreaded its cancellation under Carter.[57]

And yet, as the executive branch finally gave its blessing to the project, the tide of opinion in Congress began to slowly turn against the breeder. The shift traced to larger trends in energy consumption that had resulted from the Carter agenda. Over the course of the previous administration, Carter's conservationist policies – tax incentives for insulation and other home improvements in energy efficiency, better standards for energy use by home appliances, along with other initiatives – had taken effect, with the nation's aggregate energy use declining markedly. Utility companies found themselves unable to fund planned ongoing construction, as declining energy usage meant less money being paid to utilities by consumers. Utilities also scaled back projections for future growth in energy demand, meaning that fewer new plants would be needed. With utilities both scrambling to deal with demand that had failed to materialize in the present and reducing expectations for future demand, an experimental technology that would likely not be ready for decades seemed much less necessary than just a few years earlier. Members of Congress who had hailed nuclear power as a source of energy that would be "too cheap to meter" now found their enthusiasm for the breeder dissipating. Furthermore, the French, who had previously stood boldly at the forefront of breeder development, were experiencing economic problems with their own program, causing US proponents to rethink the practical usefulness of the technology.[58]

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[57] Ibid. On NEPA requirements see Lynton Keith Caldwell, *The National Environmental Policy Act: An Agenda for the Future* (Bloomington: Indiana University Press, 1998), 48-72.
[58] *New York Times*, 21 July 1981.

The *New York Times* continued its assault on the program with renewed vigor, warning the Reagan administration not to "plunge ahead" with the project before settling on its overall plan for nuclear nonproliferation. The *Times* spoke apprehensively of a coming vote in the House Science and Technology Committee for $254 million to start construction. "A favorable vote will probably assure that the Tennessee demonstration plant progresses to completion," the periodical predicted, but a contrary vote "may finally turn Congress against this costly, ill-conceived technological turkey." But opponents of the breeder also faced two stark consequences of the 1980 election: first, Baker's ascension as the Senate's powerful Majority Leader, and Tennessean Marilyn Lloyd's assumption of the chairmanship of the House's Subcommittee on Energy Research and Production, which had significant sway in allocating federal dollars to energy projects.[59]

The fears of anti-breeder activists notwithstanding, there were signs that some members of Congress were beginning to turn against the project. On May 7, the House's Science and Technology Committee narrowly voted to de-authorize the reactor and spend a mere $20 million to terminate the program. The significance of this vote is difficult to pinpoint. Although the *New York Times* characterized the vote as a "major blow" against the project - and some opponents overreached by calling the result "a major shift of sentiment away from nuclear power" altogether - in July the full Congress voted to spend $250 million to fund continued development for another year. Though one important committee had clearly turned against the breeder, the full Congress had not yet done the same. In the meantime, the projected cost of the reactor had ballooned to $3.2 billion, from an initial estimate of $669 million in 1973.[60]

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[59] *New York Times*, 26 February 1981, 10 March 1981, 7 May 1981.
[60] *New York Times,* 8 May 1981.

With congressional sentiment now in flux, media reports on cost estimate increases and logistical roadblocks provided more fodder for breeder opponents. In a column entitled "The Staying Power of the Clinch River Breeder," the *Wall Street Journal* noted that one of the ancillary goals for the reactor, procuring a license from the Nuclear Regulatory Commission in order to prove that breeders could meet federal health and safety requirements, could add *another* $1.6 billion to the project and delay it by another 43 months. Obtaining an NRC license had been a goal of breeder proponents since the Carter years, but it had still not been addressed to any significant extent.[61] To the breeder's opponents, the project had always been a waste of money that could not be killed, and mounting evidence seemed to validate their predictions. Every time the breeder project seemed primed to make a productive contribution to US energy policy, some new complication would push the day of ultimate benefit just a bit further into the future. The difference in this new era was that opposition statements casting continued funding as simply throwing good money after bad were beginning to find a foothold in Congress.

The Washington Post joined the journalistic assault on the project, dubbing it a project that "deserve[d] to lose." The rationale for the plutonium breeder, if there had even been a solid one to begin with, according to the *Post*, was now gone. In the past few years projected electricity demand had fallen sharply, and new discoveries of natural reserves of uranium had raised estimates of future uranium availability. The two factors combined to make the price of uranium plummet. While a potent argument in the mid-1970s, casting the breeder as a solution to the problem of scarce uranium supplies now made little sense. Furthermore, private utilities' share of the expenses of the reactor had

[61] *Wall Street Journal*, 17 July 1981.

dropped to 9 percent, sticking taxpayers even more unforgivingly with the cost of a project that was becoming ever more outmoded. The initial funding plan for the breeder had capped private utility contributions at a flat $250 million, and as the project's costs continued to balloon, the proportion of the total cost billed to taxpayers climbed higher.[62]

However, in a July 24 vote the full House again voted to fund the project, approving a $13 billion appropriations bill for energy and natural resources that included money for the reactor. Representative Al Gore (D-TN), who had won a seat in the House in the election of 1976 and whose district housed many of the Clinch River project workers, helped ensure the outcome. Citing "massive uncertainty with respect to energy supply and demand in the future," Representative Gore led the charge against Lawrence Coughlin's (R-PA) amendment, which would have killed the project. With a somewhat overblown rhetorical flourish, House Majority Leader Jim Wright (D-TX), attempted to warn his colleagues of the dangers of ending the breeder project by raising the specter of the ancient Hebrews: "They wearied of the costs of wandering in the desert. Some wanted to turn back," but they pressed on, Wright said, "and now some want to turn back" on the reactor.[63] The implication of this comparison - that finishing the breeder would lead the US to some glorious "promised land" - must have been particularly galling to environmentalist critics who emphasized plutonium's potential for dystopian terror.

More succinct was the Nader-affiliated group Congresswatch, which dubbed as "hypocrites" the 129 members of Congress who had voted in favor of the breeder "boondoggle" while simultaneously cutting programs for the poor and elderly. In

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[62] *Washington Post*, 21 July 1981.
[63] *Washington Post*, 25 July 1981.

November, over the objections of vocal breeder opponents Daniel Patrick Moynihan (D-NY) and Charles Percy (R-IL), the Senate approved the same $13 billion appropriation passed by the House. The Senate simultaneously voted to shelve an amendment offered by Paul Tsongas (D-MA) that would require private industry to pay half of the $180 million tab for the coming fiscal year.[64] Since the breeder was becoming more and more uneconomical by the day, its supporters almost certainly knew that additional private sector contributions would be scarce in arriving. The costs would continue to be borne almost completely by taxpayers, who had yet to see any benefit.

On the eve of the vote, the *Wall Street Journal* reported the abrupt resignation of the Clinch River's project director, along with the reassignment of the assistant director for engineering to a job with fewer responsibilities. These developments were not surprising in light of the level of mismanagement that had already been demonstrated. An executive director in the Energy Department's nuclear energy office refused to say whether the Clinch River's director had been forced out or had resigned willingly, which tends to imply the former. The mysterious announcement seemed to have little impact on the Senate's vote. Commenting on the outcome, the *Washington Post* noted the extent and rapidity to which the Senate's newfound "budget-cutting zeal" had been tempered by "old-fashioned pork-barrel politics and senatorial courtesies." The *Journal* attributed the result to the persistent work of Howard Baker, Jr. Jill Greenbaum, a lobbyist for the anti-breeder National Taxpayers Union, concurred, claiming that "we would win easily if it weren't for Senator Baker."[65]

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[64] *Washington Post*, 5 November 1981; *Wall Street Journal*, 5 November 1981.
[65] Ibid; *Wall Street Journal*, 4 November 1981.

Congressional Opposition Coalesces

Yet, by the next spring, with still no work having been done to prepare the reactor's intended site, a more concentrated opposition emerged in Congress. Anti-breeder voices attempted to cancel the contract among the Energy Department, TVA, and private utilities to build the reactor on grounds that the cost had doubled over the previous years, only to be told by the GAO that the contract did not specify cost overruns as a legitimate reason for abrogation. In what must have been a frustrating piece of information for anti-breeder advocates to hear, the *New York Times* reported that the Energy Department had not provided several critical documents needed by the GAO in its review of the contract.[66]

In June, the *Times* reported that an "unusual coalition" of 36 Republican and 55 Democratic representatives had mounted a campaign to kill the breeder, sending a letter to Reagan asking his administration to withdraw a $252 million request for fiscal year 1983, part of which was intended to fund groundbreaking on the Clinch River site. There was much urgency, since one of the major roadblocks facing the project's construction had fallen. The NRC had twice rejected administration requests to expedite groundbreaking, but in August, on the third try, the NRC voted to allow construction to begin. The deciding vote in this shift was Reagan appointee James Asselstine, a longtime staff attorney for the NRC. At the May vote, Asselstine, who had just been appointed to the review panel, had voted no on the administration's request. He claimed that the speed of his appointment and confirmation by the Senate might raise ethical questions if he voted in favor before having sufficient time to study the project. In August, Asselstine shifted his position, tipping the balance of the five-member commission in favor of the

[66] *New York Times*, 20 March 1982.

administration. According to an assistant secretary in the Energy Department, site clearing, grading, and excavation would start as soon as possible. Obtaining a permit and a license from the NRC to actually operate the plant was still expected to take several more years, ensuring continued uncertainty about the project's timeline.[67]

On September 22, bulldozers finally began clearing the reactor's intended site. An environmental group had obtained an order halting construction to that point in time, but after an Atlanta appeals court judge overruled the order, the bulldozers went to work immediately. An "odd coalition" of the Heritage Foundation, the National Taxpayers Union, and environmental groups together moved to join forces to cut off funding in the Senate. Conservatives were reportedly looking for a way to punish Senator Baker, who had pushed a 1982 tax increase through the Senate. The 1982 midterm congressional election, which saw 27 incumbent Republicans lose their seats to Democrats, seemed to present another opportunity to anti-breeder advocates. Many incumbent Republicans had depended on Reagan's support in their re-election battles. Now freed from the requirement of maintaining favor with their party's leader, lame-duck Republicans ideologically inclined toward budget cutting found their hands untied. According to one House staffer, "The leadership can put us off once, but on something this controversial, they have to allow a vote eventually."[68] With significant coalitions in both houses opposed to the project, the breeder's future looked more uncertain than in many years.

The *Chicago Tribune* took the initiative to recap the costs of the project so far: Though the cost of the project had been estimated at $2 billion in 1977 – and $2.6 billion as recently as mid-1979 – the current figure used in congressional debates now stood at

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[67] *New York Times*, 17 June 1982; *Wall Street Journal*, 18 May 1982; *Washington Post*, 20 May 1982, 6 August 1982; *Wall Street Journal*, 6 August 1982; *Los Angeles Times*, 6 August 1982.
[68] Eliot Marshall, "The Perils of Clinch River," *Science*, New Series 218:4568, 8 October 1982, 137-38.

$3.6 billion. Much more alarmingly, a new GAO estimate put the total cost of completion, which included expenses for NRC licensing, at up to $9 billion. The *Tribune* warned Senator Baker, known to harbor presidential ambitions for 1988, claiming that "he'd do well to kill this thing and show that he's responsible enough to put the nation's interests ahead of his state's." With more than a hint of sarcasm, the paper predicted that "He won't get far running for president of Tennessee." Indeed, the lame-duck session of Congress saw the House finally vote down the reactor, and the Senate decide to continue funding by a single vote. The *New York Times* happily described the project as "dangling by a thread," and advised that "the next Congress will do well to sever it without regret," which would only require one changed vote in the Senate.[69] While these periodicals had long assailed the breeder, their criticisms were now gaining traction in Congress.

With momentum on their side, congressional critics redoubled their efforts to kill the project, knowing that "once concrete is poured and more than 4,000 workers are hired for construction," the project might be impossible to stop. Senator Baker's announcement in 1983 that he planned to retire from the Senate was just the catalyst that critics needed. In a major turnaround the following June, the Senate for the first time in a decade approved annual appropriations for the Energy Department which included no money for Clinch River. In an even more telling sign of how congressional opinion had shifted, Senator Baker made no attempt to restore any part of the $270 million cut from the appropriation by the administration. The *Boston Globe* reported that the reactor's future was "in serious doubt" unless the electricity industry agreed to a share a major portion of the cost. Given that the plutonium breeder required uranium prices of $200 per pound to remain economical and that uranium prices currently stood at only $20 per pound, an

[69] *Chicago Tribune*, 13 December 1982; *New York Times*, 23 December 1982.

infusion of private-sector cash seemed extremely unlikely. Alvin Weinberg, a former member of the Manhattan Project and the former administrator of the Oak Ridge National Laboratory, claimed that the nation needed breeder technology. He insisted that the technology was not "that far from being economic" if one considered the timeframe not in the short-term but in terms of decades into the future. But this protestation rang hollow with those who had long felt that the technology was already largely outdated.[70]

Weinberg's insistence on continuing to fund the breeder had more to do with flailing attempts to bolster the nuclear industry after Three Mile Island heightened safety concerns and declining energy demand lessened the need for future nuclear capacity, not on any specific economic analysis. Weinberg, among others, argued that the TMI disaster need not be taken as the end of nuclear power in the US, but that it should instead be seen as an opportunity to inaugurate a "second nuclear era" characterized by more stringent safety regulations, an era which would presumably include the breeder.[71] Despite Weinberg's status as a major figure in the history of American nuclear administration, his exhortations had little effect on the new wave of sentiment within the House and Senate, which was based on economic concerns.

Representative Marilyn Lloyd posed in September for a bizarre media opportunity that was very much out of step with the new realities of the breeder's status. A cheery Oak Ridge news release reported on the wondrous scale of work recently completed to prepare the reactor's site on the Clinch. More than 350,000 pounds of explosives had

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[70] Ibid; *Boston Globe*, 23 June 1983; *Chicago Tribune*, 24 June 1983. On Weinberg see Allitt, *A Climate of Crisis*, 109. Weinberg and Edward Teller usually lined up on the same side of nuclear issues but split on the breeder.

[71] Russ Manning, ed., *The Second Nuclear Era: A New Start for Nuclear Power* (New York: Praeger Publishers, 1985). See also Alvin M. Weinberg, *The First Nuclear Era: The Life and Times of a Technological Fixer* (New York: American Institute of Physics, 1994), 129-31.

recently been used to blast 675,000 cubic yards of limestone and siltstone from the area to create space for the reactor, the news release proudly proclaimed. More than 2,400 steel rock bolts and bearing plates had been installed to prevent rock from newly formed vertical rock walls in the area from moving. Representative Lloyd, was given the honor of tightening the last rock bolt and completing the preparations necessary for construction to begin.[72] But since the breeder's future now appeared quite bleak, the jovial tone characterizing news releases about the completion of the reactor's intended site seemed like willful ignorance of the situation. And another news release announcing that a scale model of the breeder would be on display at the Oak Ridge Public Library, while highlighting Oak Ridge's deeply-rooted nuclear identity, seemed even stranger, given that it was doubtful that the structure would ever exist in full-scale form.[73]

Science and Society

With the turn of congressional opinion against the project, Clinch River's advocates turned to increasingly desperate measures. The project's managers were reportedly planning to attach further funding for the reactor to urgent legislation, perhaps the continuing resolution to keep the government funded after the fiscal year concluded at the end of September. This plan failed in the face of general congressional opposition. To assuage concerns about federal spending, reactor backers had also supposedly come up with a new financial plan that included greater contributions from industry. This latest plan would supposedly raise $1 billion dollars, or 40 percent of the now $2.5 billion total cost, from private industry, with the money being repaid to industry from revenues from

[72] News Release, "Ready for Construction," 14 September 1983, box 146, folder Clinch River Breeder Reactor (7), 1983, ML.
[73] News Release, "Exhibit at Oak Ridge Library to Feature Breeder Reactor Model," 25 August 1983, ibid.

the project's eventual electric output. Closer inspection, though, revealed that the "support" consisted mainly of loans covered by broad federal guarantees, meaning that the government, not private investors, would be responsible for losses if the plant failed to make reap projected revenues. The director of the Congressional Budget Office testified to Congress that this private support program would indeed cost the government *more* than conventional appropriations, and the plan thus unsurprisingly gained little support.[74]

The last lifeline to the project had failed. At the end of October, the Senate definitively voted by a tally of 56 to 40 to cut off funding to the project. Breeder backers reluctantly recognized the finality of the vote. "The Senate has spoken," Senator Baker conceded tersely, and "I will not prolong it at this point." With both houses of Congress on record against the project and refusing to give it any more money, Clinch River's future came to a quiet end.[75]

The only remaining question had to do with the costs of shutting down the project. After the Department of Energy put out the word that the project would be closed "in an orderly manner," just how much more money would be required was uncertain. The director of DOE's nuclear planning division said that the department had once figured shutdown costs at between $200 and $500 million. But after the Atlanta appeals court's decision had allowed construction to begin, the local site manager had rushed outside around midnight and knocked down trees with a bulldozer. A large cavity had subsequently been blasted out of rock, as Representative Lloyd's symbolic tightening of

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[74] *Washington Post*, 26 September 1983; News Release, "Subcommittee Witnesses Urge Congress to Approve Clinch River Alternative Financing Plan," 15 September 1983, box 146, folder Clinch River Breeder Reactor (7), 1983, ML; Ronald Reagan to Tom Bevill, 4 October 1983, ibid.
[75] *New York Times*, 27 October 1983.

the last rock bolt had highlighted, and a foundation had subsequently been laid. Now that the breeder was dead, some environmental repair and stabilization would have to be done to the site before it could be abandoned. The DOE director predicted that Congress would have to vote another small supplemental appropriation for 1984, since Clinch River's current budget would expire in a few weeks.[76] This shutdown cost was a small inconvenience in light of the hundreds of millions that had already been spent.

With the saga of the Clinch River project finally finished, critics of congressional waste turned their attention to a $10 billion uranium enrichment plant that the Department of Energy was building at Portsmouth, Ohio. This was the same plant that Carter had discussed at the outset of his involvement in the Clinch River debate. Like the breeder, the plant's capacity would not be needed for decades, and prospective development of new technologies in the future threatened to make the plant obsolete long before it would be necessary. The Natural Resources Defense Council, itself a longtime opponent of Clinch River, argued at a House hearing that spending so much money on the Portsmouth plant would siphon money away from more promising experimental projects.[77] Though Clinch River itself was dead, environmentalist battles against suspected pork-barrel nuclear projects in Congress continued.

The Clinch River breeder was, of course, only one component of the nuclear debate in the United States in the 1970s and 1980s. Reagan and his successor George Bush were both strong supporters of commercial nuclear power. Each used a combination

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[76] Eliot Marshall, "Clinch River Dies," *Science*, New Series, 222:4624, 11 November 1983, 590-92.
[77] Ibid. On the NRDC's extended campaign against the breeder see Nader and Abbotts, *The Menace of Atomic Energy*, 190-95. The story of this centrifuge plant in Portsmouth mirrored some of the aspects of Clinch River, and it is thus no surprise that it too brought the hostile attention of environmentalists. In the mere six years since Portsmouth was chosen as the plant's site, for example, the estimated cost of the project had more than doubled, from around $4 billion to $10 billion. Furthermore, while the plant's centrifuge technology had been considered cutting-edge in 1977, by 1983 it seemed already on the verge of obsolescence. See *Wall Street Journal*, 12 July 1977.

of executive orders and bureaucratic appointments to assist the nuclear industry, even with 1979's Three Mile Island disaster and the 1986 Chernobyl incident in the Ukraine turning public opinion against nuclear power.[78] The Clinch River breeder was only one federally-subsidized exception in a field that Presidents Reagan and Bush wished to be dominated by private enterprise. But as this chapter has shown, despite its uniqueness, the Clinch River project stood as one of the cornerstones of US nuclear policy in the late 1970s. Its story reveals much about the intricacies of the history of energy in the United States.

The Clinch River reactor itself was a multibillion-dollar public initiative. But more importantly, it was also a test case for future endeavors. If the Clinch River reactor had been constructed and deemed a success, it would have served as the model for future similar reactors, each also receiving some measure of government support. The story of the Clinch River reactor thus serves as a window into politics and policymaking in the late-twentieth-century US. The era encompassing the New Deal and World War II witnessed an explosion in the federal bureaucracy, with experts of every profession populating a seemingly endless array of new agencies. Yet the Clinch River saga demonstrates the limits of the influence of this new rationalized and insulated expertise in the federal government. Even as expert consensus within the government, bolstered by the admonitions of critical periodicals, turned against the project, money still flowed freely from the coffers of Congress. Hundreds of millions of dollars spent over years yielded little more than a hole in the ground in East Tennessee, a wasteful outcome that the Carter administration was powerless to halt.

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[78] Duffy, *Nuclear Politics in America*, 182-83.

One obvious question in the Clinch River saga is how congressional supporters were able to maintain ongoing funding even as many economic analysts cast the project as more and more transparently a waste of resources. The answer has to do with the nature of science, and more specifically the challenge of predicting the future. Many analysts predicted that patterns in the rate of technological change meant that, by the time the output of the breeder technology was needed, there would likely be some more efficient, cleaner, and safer alternative available. Congressional supporters of the project, assisted by conflicting GAO analyses, successfully claimed in response that no such assumption could be relied upon. They noted that uncertainties in future population growth and future electricity demand, along with the growing unreliability of Middle Eastern oil, meant that the breeder could not be so easily abandoned. No analyst can say for sure what the political-economic situation of a given area will be decades years into the future. There are simply too many interconnected variables to consider.

Congressional proponents were thus able to maintain an argument for continuing to pour resources into the breeder, even against vehement political and bureaucratic opposition and amidst the unrelenting criticism of newspaper commentators.[79] The fact that most breeder supporters in Congress had little or no scientific training mattered little, confirming historian Brian Balogh's observations about the diminished influence of trained expertise in this new era. As the Italian-born microbiologist Salvador Luria wrote in a May 1977 analysis of science's public standing, the thousands of scientists laboring

[79] The late 1970s and early 1980s themselves represented a period of fierce controversy among experts about whether a growing world population would result in either resource shortages or improved technological capability, and thus whether the future would be characterized by scarcity or growth. Projecting future energy needs was therefore a highly complicated endeavor that lent itself to a wide range of interpretations. For the best analysis of these debates see Paul Sabin, *The Bet: Paul Ehrlich, Julian Simon, and Our Gamble over Earth's Future* (New Haven: Yale University Press, 2013).

in their individual laboratories had become like "the uncountable numbers of coral polyps that are continuously working under the waves," operating out of view and cloistered from scrutiny, which made competing assertions hard to evaluate.[80] Because of this inscrutable façade, in the breeder debate, it seemed as if all claims were created equal. Jimmy Carter's energy policy and especially his public image suffered accordingly. The combination of Carter's vehement opposition to the breeder and his inability to cut off funding for it made him appear weak and ineffective in the pages of national newspapers, and represented another blow to his ability to formulate and execute a coherent energy policy.

The Clinch River story demonstrated that environmentalists could not be sure of policy successes in the post-embargo era, especially in light of uncertainties about future energy needs. When it came to decisions about funding new energy technologies, it seemed that many Americans believed that erring on the side of caution was the wisest course of action, especially if a repeat of 1973 could be avoided. Environmentalists found that even with fervent appeals to health and safety, funding for the plutonium breeder flowed freely from Congress for years. But it was not just general political support for environmental goals that declined after the oil embargo. Specific laws were affected too. When the new regulations of the environmental era seemed to impede energy security, many Americans came to believe that they had been written too broadly and generated outcomes that seemed to defy common sense. They demanded that the scope and power of the laws be rolled back to a more reasonable level. The next chapter explores the

[80] S.E. Luria, "The goals of science," *Bulletin of the Atomic Scientists*, volume 33, number 5 (May 1977), 30.

politics of hydroelectricity to examine how the Endangered Species Act was reined in by concerns about energy security.

Chapter 5: "Deliberately inflexible": Tellico Dam, Dickey Dam, and Endangered Species

As it was for all domestic energy sources, the mid-1970s was a moment that held potential for dynamic change in the hydroelectric economy of the United States. Keynoting the 1976 annual convention of the Colorado River Water Users Association (a group of representatives and officials from Western states and Native American tribes), US Bureau of Reclamation Commissioner Gilbert Stamm declared emphatically that hydropower was significantly underdeveloped in the United States, with untold numbers of rivers primed and ready for useful hydroelectric construction. He optimistically predicted that remedying this problem of underuse could play a large role in solving the nation's energy woes, dependence on foreign oil foremost among them. Citing the key role of hydropower in the historical development of the American West, Stamm warned that "We would be grossly irresponsible if we ignored its undeveloped potential in planning for future generations." And noting that only a third of the nation's identified hydroelectric capacity had been exploited, Stamm extolled the potential for water to make an "important and unique" contribution to energy security.[1] Though Commissioner Stamm specifically touted the untapped hydro capacity of the Colorado River Basin in the West, he also expressed broader optimism about the potential of flowing water to help solve the nation's energy problems. If the numberless rivers crisscrossing the country could have their waters harnessed for human use, the nation's dependence on oil from across the world could quickly dissipate.

Not all observers shared Stamm's zeal for hydroelectric power. The mid-1970s also witnessed tense debates surrounding several large hydroelectric projects, whose

[1] *Los Angeles Times*, 14 December 1976.

potential effects on the landscape and wildlife in a proposed construction area generated controversy. Environmentalists often mobilized to block the construction of these huge structures, which brought them into conflict with public agencies funding and supporting the projects. Environmentalist opponents of the dams were often unable to prevent the construction of hydroelectric projects by appealing to general environmental sensibilities. They resorted to using a relatively new piece of regulatory legislation, the Endangered Species Act (ESA), to preserve undeveloped wilderness areas.

Passed in 1973 as a key piece of the broader wave of environmental legislation in the United States, the ESA was meant to protect imperiled animal and plant species. Supporters of the law argued that allowing species to go extinct was short-sighted. One pragmatic reason given was that they might provide some yet-unknown benefit to humans at some future date, and another was that species had an inherent right to exist and humans did not hold the moral authority to wipe them out.[2] Once passed, the ESA prevented federal agencies from taking any action that would kill endangered animal or plant species or destroy their habitats. Though the law passed with virtually universal acclaim from the public, several facets quickly became controversial as the legislation was put into practice. Chief among the contentious aspects was that the law protected endangered species indiscriminately with no regard for their relative usefulness to humans. This provision at first seemed noncontroversial. How can one compare the relative inherent monetary value of one endangered species versus another? Yet its enforcement soon irritated many Americans who came to believe that it was too broad. Not long after the law's passage, members of endangered species - which often had

[2] On the history of endangered species law from the late 1950s to the early 1970s see Charles C. Mann and Mark L. Plummer, *Noah's Choice: The Future of Endangered Species* (New York: Alfred A. Knopf, 1995), 149-63.

negligible differences setting them apart from similar species whose populations were abundant - delayed or halted massive, multimillion-dollar economic projects.

Endangered species' ability to dominate and marginalize all the other facets and issues embedded within a complex debate soon made many observers question the scope and power of the law. Even publications that may have had mixed feelings about a given economic project came to opine that such debates should pivot around weightier concerns than one seemingly un-notable species. This chapter examines two controversies that unfolded from the mid-1960s through the 1970s, both related to hydroelectric projects, which imparted this pessimistic notion to diverse constituencies and interest groups.

The two cases, Tellico Dam in East Tennessee and Dickey Dam in northern Maine, each unfolded over more than a decade, with stops and starts in funding allocations based on sporadic environmental litigation. But while the Tellico Dam was finished and its gates closed to impound the Little Tennessee River, the Dickey Dam was never built – in fact, wilderness land was never even cleared to prepare the site, and families living on the dam's proposed site who had faced forced relocation remained on their land. There were also differences in the dynamics of public-private alliances in the two cases. While Tellico witnessed cooperation between the quasi-public Tennessee Valley Authority and the Boeing Corporation to develop land around the Little Tennessee, in the case of Dickey Dam the Army Corps of Engineers clashed with private power companies who detested public competition in electricity generation.

Yet even with these significant differences in play, each project was at one point imperiled by the Endangered Species Act. A small fish called the snail darter delayed the Tellico Project and put its eventual completion, for a time, at risk. The dispute over the

dam made its way to the US Supreme Court, which ruled in favor of the tiny fish. Likewise, a few clumps of a wildflower known as the Furbish lousewort jeopardized the future of the Dickey Dam in Maine. The two endangered species' ability to dominate public debate and supersede all other concerns about the future of the two projects made many observers, including individual citizens and national periodicals, come to believe that the Act protecting them was too powerful. These cases turned many Americans' opinion against the idea of environmental regulation, as many observers came to believe that regulations, while admirable in the abstract, did not in practice adequately take into account the imperatives of human economic need.

As the footnotes to this chapter indicate, the Tellico story has already received significant attention from historians and political scientists. Such analysis generally focuses on narrow aspects of the story, such as the history of legal litigation on the dam or the internal discussions among TVA officials as the story played out. This chapter instead places Tellico into the larger unfolding story about the declining political power of environmentalism after the oil embargo, a story that also included the never-built and much less well-known Dickey Dam. When environmental guidelines did not seriously endanger Americans' standard of living, they were relatively uncontroversial. But when environmental values and economic comfort came into conflict, some Americans came to believe that recent regulations were unfairly predisposed, against the dictates of common sense, to favor the former at the expense of the latter. The Tellico and Dickey controversies led to the deterioration of the Endangered Species Act's reputation and legal power. With it, the reputation of environmentalism suffered a serious blow.

The Tennessee Valley and Riverfront Development

The Tellico Dam project, as an initiative of the quasi-public Tennessee Valley Authority (TVA), had deep historical roots. By the mid-1960s, the time of the project's inception, the agency had developed a central and nearly mythical position in the history of the US Southeast. During the economic disaster of the New Deal years, many of President Franklin Roosevelt's top advisers had developed a theory to explain the seemingly insurmountable poverty of the American South, the wealth of which persistently lagged behind the industrial centers of the Northeast and Midwest. They concluded that urban industrial centers in other parts of the nation had kept the "resource-rich hinterlands" of the South in a perpetual state of underdevelopment by appropriating its raw resources with little concern for the residents of the region. The Southern states had exhausted their soils and forest resources to produce material - mainly cotton - for refining and processing in urban industrial centers. To equalize incomes between farm and factory, therefore, meant that agricultural regions "retain the right to their own resources" and use them effectively. New Dealers also decided that the federal government would have to be the agent of change, as the South, focused intently on preserving strict nineteenth-century racial hierarchies through maintenance of a farm-based economy, lacked the political will to achieve its own forward-thinking economic uplift.[3]

As historian Sarah T. Phillips has argued, no single New Deal initiative better embodied this thinking than the TVA, a government corporation created during FDR's

[3] Sarah T. Phillips, *This Land, This Nation: Conservation, Rural America, and the New Deal* (New York: Cambridge University Press, 2007), 78-80. On the stagnant agricultural economy of the South in the first half of the twentieth century see Paul K. Conkin, *A Revolution Down on the Farm: The Transformation of American Agriculture since 1929* (Lexington: University Press of Kentucky, 2008), 50.

first hundred days. Created to "restore and develop the resources of an entire watershed area," according to Phillips, the TVA built multipurpose dams, supplied hydroelectric power to farms and small towns, and began to repair the South's damaged forests and soils.[4] Though some New Deal programs were either ineffective or found themselves ruled unconstitutional, the TVA emerged as one of the most prominent symbols of the successes of New Deal liberalism. In 1933, when the TVA was established, per capita income in the Tennessee Valley was a mere 45 percent of the national average. By 1972, the ratio stood at a greatly-increased 75 percent, a figure of which the Authority was exceedingly proud. The agency attributed much of the difference to its own activities in the region, and used the irrefutable economic progress of the past decades to push for an expanded mission in the near future.[5]

The agency had a practical reason for wanting to expand the scope of its mission in the Valley. TVA had relied on consistent funding from Congress to pay for the construction of power generation facilities for the first quarter-century of its existence, as the subsidized electric rates offered to impoverished Valley residents did not in turn provide sufficient revenue to the Authority for its daily operations. During the Eisenhower administration, however, Congress began to withhold dollars, channeling money instead to the task of waging the burgeoning Cold War with the Soviet Union. Aubrey Wagner, TVA board chairman from 1962 to 1978, recognized that TVA's current formula – relying on power generation, navigation, and flood control – was insufficient to financially sustain the agency. It needed to expand its role in the region, as doing so

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[4] Ibid. For more on the New Deal development of the South, see Bruce J. Schulman, *From Cotton Belt to Sunbelt: Federal Policy, Economic Development, and the Transformation of the South, 1938-1980* (New York: Oxford University Press, 1991), 112-134.

[5] *Environmental Statement: Tellico Project* (Chattanooga, TN: TVA Office of Health and Environmental Science, 1972), I-1-43.

would multiply its sources of revenue. Wagner decided that including more direct local economic development initiatives within TVA's mission could attract additional congressional appropriations, as members of Congress from the Tennessee Valley would be eager to steer federal funds that would generate local jobs. The TVA had long used dams to generate electricity for residents of the Valley. The chairman decided that building entirely new communities around the reservoirs created by these dams provided the path forward.[6]

In 1962, the first year of Wagner's chairmanship, TVA began a fierce push for increased riverfront development. It provided reasons to the US Congress why federal support for these projects would be beneficial. First and foremost, it would help develop industry in the region. The Tennessee Valley had numerous navigable waterways that, in theory, could be used for easy transport of industrial products to other areas of the nation for consumption. The only problem was that the region, focused on maintaining the romantic ideal of the independent rural farmer, had largely failed to develop industrial sites along these promising rivers. The TVA could and should rectify this shortsightedness, it said. There was also a more pressing practical reason for this course of action. Due to robust population growth, Tennessee's labor force was increasing more quickly than job opportunities in the state's stagnant farming economy could handle. A failure to diversify the region's economy would soon lead to structural economic disaster.[7] In the TVA's estimation, riverfront development would continue to create low-

[6] Kenneth M. Murchison, *The Snail Darter Case: TVA Versus the Endangered Species Act* (Lawrence, KS: University Press of Kansas, 2007), 12-13. For more on the community development initiative see Aelred J. Gray and David A. Johnson, *The TVA Regional Planning and Development Program: The Transformation of an Institution and Its Mission* (Burlington, VT: Ashgate Publishing Company, 2005), 77.
[7] "A Program for the Preservation and Development of Industrial Areas Along Tennessee's Waterways" (Nashville: State-Local Waterfront Industrial Site Committee, 1962), 1, found in box 4, TVA Reports, 1933-1973, MS-828, Special Collections, University of Tennessee.

cost hydroelectric power for the Valley, but it would also provide a way to encourage capital investment and industrial development in the resource-rich region.[8] However, as the TVA found, the new environmental legislation of the late 1960s and early 1970s created a formidable obstacle to its riverfront development plans.

The Tellico Project

The TVA's inaugural effort to pursue this new mission centered on constructing a dam on the Little Tennessee River, about twenty-five miles southwest of the TVA headquarters in Knoxville, and then building a new industrial community around the hydroelectric structure. The site seemed to be ideal. It was a rural and impoverished area desperately in need of an economic jolt. Following Wagner's lead, in April 1963 the TVA board voted to endorse the project and seek congressional funding, which came quickly. Congressional favor led to executive support as well. The budget proposed by President Lyndon Johnson in January 1965 included nearly $6 million for the project.[9]

Initial stages of the project proceeded with no apparent problem, as a modernization project for an impoverished rural area seemed to have little obvious downside. Tennessee congressman Joe Evins got a favorable vote for the prospective Tellico Dam from the Appropriations Committee and then the full House in 1966. Initial construction of the project began soon afterward in March 1967. The main component of the initiative was the dam on the Little Tennessee River, about a quarter mile above its confluence with the Tennessee River. It seemed to be a perfect location on a river whose

[8] For more on Wagner's reasoning see William Bruce Wheeler and Michael McDonald, *TVA and the Tellico Dam, 1936-1979: A Bureaucratic Crisis in Post-Industrial America* (Knoxville: University of Tennessee Press, 1986), 31-35.
[9] Murchison, *The Snail Darter Case*, 7-22.

utility had already been proven. In its promotional materials, TVA referred to the Little Tennessee and its tributaries as "a hard-working river system," already impounded sixteen successful times for hydroelectric generation and flood control.[10]

The project also included creating a thousand-foot-long canal to divert the waters of the Little Tennessee into Fort Loudon Reservoir, enabling these waters to pass through the existing hydroelectric units in the Fort Loudon powerhouse. The reservoir created by the dam would prospectively extend over thirty miles upstream, its impressive length allowing its waters to occupy over fifteen thousand acres. In TVA's boosterish words, this would "create an ideal living, working, and recreation environment…[in an area] characterized by low incomes and under-utilization of human and natural resources." Recognizing that "the influx of thousands of people requiring homes and services in an essentially rural area" could result in rapid and uncontrolled sprawl, TVA planned to create a focused suburban-style, single-family-home community on the left bank of the reservoir's lower reaches.[11]

TVA emphasized a multiplicity of recreational, disaster-preparedness, and energy production benefits in promoting the project. First and foremost, it would bring money and jobs to an area that sorely needed both. Pointing out that the nearby Great Smoky Mountains National Park received over seven million visits from tourists every year, TVA claimed that the lake would be a "valuable" supplementary recreational asset that would attract dollars from wealthier areas of the Southeast and the nation. TVA also projected that the diversion of the reservoir waters through the turbines at Fort Loudon

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[10] *Environmental Statement: Tellico Project*, I-1-1, I-1-5; Erwin C. Hargrove, *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990* (Princeton: Princeton University Press, 1994), 175; "Upper Little Tennessee River Region: Summary of Resources" (Knoxville: Tennessee Valley Authority, 1968), 5, found in box 3, TVA Reports.
[11] *Environmental Statement: Tellico Project*, I-1-2, I-1-3.

Dam would provide 200 million kilowatt-hours of inexpensive electricity for Valley residents annually. Emphasizing the environmental benefits of hydroelectric power, TVA claimed that producing this same amount of electricity in a coal-fired steam plant would require about ninety thousand tons of coal each year, the pollution from which would be mitigated by the turbines' operation.[12]

Within TVA's more traditional mission, the agency also pointed out that the Tellico Dam and Reservoir would provide over a hundred thousand acre-feet of storage for flood control, providing much-needed flood protection for Chattanooga (a city about a hundred miles west of Knoxville, on the border with Georgia) as well as myriad communities along the Tennessee River between Chattanooga and the project.[13] To assuage possible concerns about risk to drinking water, the TVA claimed that the project, despite its massive scale, was not expected to adversely affect water quality "to any significant extent." It also downplayed the possible losses of rare and endangered species, claiming that any rare fish or mollusks in the area that might be affected by the construction also existed securely in other locations.[14]

With all of these ostensible benefits, the project received virtually unanimous support from local governments and business interests. The Chamber of Commerce of nearby Lenoir City resolved in 1969 that the dam was "vital to the economy and welfare" of the city's residents and urged that the level of appropriations for the project be increased by such amounts to insure "timely completion." In 1970, the Monroe County Quarterly Court deplored the fact that the project was only thirty percent complete, and criticized a delay caused by recent budget cutbacks. In 1972, the town of Madisonville

[12] Ibid.
[13] Ibid.
[14] Ibid, I-1-28, I-1-42.

exhorted the "economic development and employment opportunities" of the dam, as did the Board of Mayor and Aldermen of Lenoir City. The same year, the president of the Knoxville Chamber of Commerce (KCC) wrote to Governor Winfield Dunn explaining his support, claiming that the dam's creation of a lake with adjacent properties would address concerns of both environmentalists and urban planners by "providing a place for [growing populations] to live, while at the same time enhancing their environment."[15] To the KCC President it seemed that the concept of environmental quality was synonymous with human recreation, providing a glimpse into how boosters unconvincingly tried to square their support for economic growth with the political power of environmentalism in the early 1970s.

Vague definitions of "environmentalism" aside, not all citizens were persuaded. Local ecologist Edward Clebsch crystallized the environmentalist viewpoint, writing indignantly to the recently-created President's Council on Environmental Quality to criticize TVA's process of land acquisition. He criticized the idea that the financial benefits of the project would be derived from the development of pollution-generating industrial sites. According to Clebsch, the dam's economic proceeds would flow overwhelmingly to the privileged few who owned the industrial sites, with the negative externalities distributed to the general populace. Pointing out that the TVA expected to receive several million dollars in land sales to industry, Clebsch also found it "revolting"

[15] Resolution by the Chamber of Commerce - Lenoir City, Tennessee, 1 May 1969, box 10, folder 11, Howard H. Baker, Jr. Papers (hereafter HBJ), MPA 101, Howard H. Baker, Jr. Center for Public Policy, University of Tennessee; Monroe County Quarterly Court, 20 April 1970, ibid.; Resolution in Support of the Tellico Dam and Reservoir, Town of Madisonville, 14 April 1972, ibid.; Resolution by the Board of Mayor and Aldermen, City of Lenoir City, Tennessee, 10 April 1972, ibid.; James C. Talley II to Governor Winfield Dunn, 25 January 1972, ibid..

that TVA would use eminent domain to acquire land "and then sell it at an unbelievably high profit to itself."[16]

He also questioned the TVA's boosterish claims. Clebsch pointed to "the very high number" of artificial lakes already extant within a short distance of the Tellico Project to argue against TVA's claims on the necessity for recreational waterways. Lastly, Clebsch claimed that "even though the TVA denies it…there will be periods when the polluted waters of Ft. Loudon Reservoir are able to flow into the Tellico Reservoir." Regarding the consequences of such mixing, Clebsch accused the TVA of willful ignorance, as "no one knows and no one plans to find out." In 1971, Tennessee Republican governor Winfield Dunn also spoke out against the dam on environmental grounds, which came as a surprise for the TVA, which had long counted on state government support for development projects.[17]

To the agency's surprise, even more vocal against the project were many local residents. They allied with environmentalists to oppose the dam. Chairman Wagner had encountered the opposition in person, having traveled to the nearby town of Greenback in 1964 eager to sell the idea to locals and assuming that they would warmly greet an initiative to improve their area's aggregate income and economic standing. Instead, the trip was a disaster. The rural residents loved the idyllic nature of quiet farm life and were loath to give up agricultural land for industrial development and suburban-style homebuilding, a deeply-rooted cultural ideology that Wagner had not considered. Farmers and fishermen from the area were not content to voice their protest against visiting TVA officials; they supplemented their localized grumblings by traveling to the

[16] *Environmental Statement: Tellico Project*, I-4-7, I-4-9, I-4-10. For more on Clebsch's relationships with other dam opponents see Wheeler and McDonald, *TVA and the Tellico Dam,* 136, 144.
[17] Ibid; Hargrove, *Prisoners of Myth,* 176.

nation's capital in 1966 to speak out against the project in congressional hearings, enraging the TVA head.[18]

Even though it included the state governor, the opposition alliance of environmentalists and farmers seemed to matter little. The US Congress generally sided with Wagner and TVA. Not unimportantly, eminent domain powers backed by Congress gave the TVA the ability to seize farmland against locals' wishes. Private companies also joined the controversy on the side of the TVA and the US Congress, creating a seemingly unstoppable alliance in favor of the project. As the debate unfolded, TVA had attracted the support of the Boeing Corporation as a partner to help build the prospective new town of Timberlake on the Tellico reservoir, a project that was never completed. TVA also in 1972 received approval of its environmental impact statement, prepared in response to National Environmental Protection Act requirements that federal projects be evaluated for their environmental consequences. Rumors of budget overruns and exploding costs, while providing fodder to those already against the dam, did little to move the opinions of those who favored it. By 1973, it appeared that the dam would go forward as planned, despite the vehement and diverse opposition.[19] But dam opponents had one more powerful weapon to use against the project, the Endangered Species Act.

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[18] Zygmunt J.B. Plater, *The Snail Darter and the Dam: How Pork-Barrel Politics Endangered a Little Fish and Killed a River* (New Haven: Yale University Press, 2013), 20-22. On the TVA's delaying of the announcement that it planned to buy land near the project site and sell it at a profit after the dam's construction, see Wheeler and McDonald, *TVA and the Tellico Dam*, 41-43. On the agricultural tradition and cultural conservatism of the Little Tennessee Valley, see 46-63.

[19] Hargrove, *Prisoners of Myth*, 176. On NEPA requirements see Lynton Keith Caldwell, *The National Environmental Policy Act: An Agenda for the Future* (Bloomington: Indiana University Press, 1998), 48-72.

Discovering the Snail Darter

In August 1973, zoology professor David Etnier, a Tellico Dam opponent, recognized that the Endangered Species Act might be the last chance for dam opponents. Though the ESA had been passed with known species threatened by human development in mind, Etnier realized that newly-discovered species would fall under the Act's provisions too. He went looking for new species in the Little Tennessee River that might require federal protection. Etnier's expedition was indeed fruitful, as he discovered a tiny, previously-unidentified fish barely bigger than a paper clip. The find, which became known as the snail darter, gave new life to opponents of the dam. Not unimportantly, the snail darter, while a unique species, was one of over a hundred known species of darter fish, each of which had negligible differences from the others. After extended testimony from both TVA and the environmental opposition, the Fish and Wildlife Service decided to side with the environmentalists. The Service listed the fish as an endangered species and designated a part of the Little Tennessee River as a "critical habitat" for the snail darter. This designation meant that the area could not be altered in a way that might imperil the snail darter's survival. Even though the dam was ninety percent complete by this point, the fish and its habitat in the Little Tennessee were now protected by the Endangered Species Act, and TVA could not go forward with the project.[20] Litigation by TVA over the subsequent years advanced within the US court system, and a spring 1978 Supreme Court decision – which saw the Carter administration, especially Attorney

[20] Murchison, *The Snail Darter Case*, 80-107. Though contemporary accounts claimed that Etnier happened to discover the snail darter in the river by accident, later interviews with participants in the case have revealed that Etnier was purposefully looking for species that would fall under the ESA's provisions.

General Griffin Bell, siding with TVA against dam opponents – ended with the Court ruling that the dam could not be completed.[21]

The national coverage of the snail darter drew a variety of responses. In February 1977, the *Los Angeles Times* published a telling and indignant letter from Martin J. Weisman, a resident of the San Fernando Valley. The story of the rural Tennessee dam had reached as far as the West Coast, and made enough of an impact to draw strong written responses from residents there. In his letter, Weisman described the Act as nothing short of "lunacy." "Is a rare little fish more important than providing power and controlled water for the people of Tennessee?" asked Weisman. He claimed to have no problem with allowing endangered species to live, but only "until their proliferation conflicts with the health, comfort, and livelihood of mankind."[22] Weisman's letter was indicative of the visceral feeling that the Tellico Dam saga had generated: that it was important to protect endangered species, but not to the extent that they became a detriment to common-sense human economic needs.

The Tellico Dam saga indeed played a role in reorienting some of the environmentalist legislation passed a few short years before. The month after Weisman's letter was published, in March 1977, the *Christian Science Monitor* reported that Congress was considering curbing the power of the Act, specifically the Fish and Wildlife Service's power to safeguard habitats deemed essential to the survival or recovery of an endangered or threatened species. The mere addition of an organism to the endangered species list did not automatically remove the land it lived on from developmental potential. But since the Service had broad authority to designate land a

[21] Ibid, 108-40; Hargrove, *Prisoners of Myth*, 175-76.
[22] *Los Angeles Times*, 13 February 1977.

"critical habitat," each new listing held the corresponding possibility to impede or prevent a developmental project. According to the *Monitor*, the authority of the Service faced a "water[ing] down" at the hands of Congress in multiple ways. The Interior Secretary would prospectively, for example, be given unilateral power to exempt a federal project that would otherwise be excluded from a designated critical habitat. Furthermore, the kinds of species that might be eligible for critical habitat protection also faced curtailing, with cold-blooded vertebrates and invertebrates possibly losing habitat protections altogether.[23]

The potential stripping of safeguards for these specific categories could not have been accidental. Fish and Wildlife officials reportedly opposed such restraints on their enforcement powers, some members on Capitol Hill had been impacted by the Act "pretty hard," according to one Service official who seemed to concede the inevitability of the cutbacks. Employing a slew of mixed metaphors, he noted that "Their pork barrels have taken a beating, and they may be out for blood." They were indeed. The catalyst for the congressional onslaught appeared to be the Tellico Dam controversy, and dam supporters thus targeted river-dwelling frogs, lizards, snakes, and fish for exemption from regulation in order to protect future hydroelectric projects. Though the Service's associate director promised to "fight…tooth and toenail" against the measures, it seemed as if some members of Congress had grown exasperated with the ability of endangered species law to hold up water development projects in their districts. The Tellico controversy served as an ominous harbinger of what might be in store for other projects in other districts.[24] And with the Service announcing that it planned to soon add another 1,700 species of plant

[23] *Christian Science Monitor*, 10 March 1977.
[24] Ibid.

life to the endangered list to supplement the 609 existing listings of fish and other animals, skeptical members of Congress moved swiftly to prevent potential threats to favored local projects before new listings could cut off waterways from development.[25]

Though supported by business interests in the fight against the reach of the ESA, legislators did not pass these specific provisions in 1977. Opposition to the ESA continued to grow in Congress nonetheless. In April 1978, within the Senate Environmental and Public Works Committee's Resource Protection Subcommittee, John C. Culver (D-IA) offered an amendment that would create a review board drawn from seven federal agencies empowered to grant exemptions from the Act for some government construction projects. Under certain circumstances, the proposed board could permit construction of a project that would destroy an animal or plant species if the benefits to humans of the project "clearly outweigh[ed]" the value of the species.[26]

The amendment offered no scale or metric to determine how benefits to humans would compare to the existence or nonexistence of a given species, and it seems impossible that any such measure could be reasonably devised, giving the review board wide latitude to make decisions. The board could not override the ESA with a simple majority vote. Instead, it would take five out of seven members to permit a project to proceed in the face of an endangered species objection. The review board would be composed of the Secretaries of the Interior, Agriculture, and the Army, the chair of the Council of Economic Advisers, the EPA and NOAA administrators, and an individual nominated by the governor of the state in which a project was affected by the ESA. Six of these seven members were presidential appointees. Given such criteria, the practical

[25] *Washington Post*, 11 February 1977.
[26] *New York Times*, 14 April 1978.

effect of the panel would be influenced by the ideological orientation of the president making these personnel decisions.

This proposed amendment, while seemingly byzantine in its bureaucratic orientation, represented a major change in the nature of the law. One of the things that made the ESA different from other federal regulations was its locally-enforceable curbs on development. Other areas of federal regulation – antitrust, financial, and others – relied on vigorous efforts from law enforcement officials like the President and Attorney General to function properly. Presidents who disfavored regulations often did not need to persuade Congress to roll them back in order to weaken their power. They simply needed to institute lax enforcement. But the provisions of the ESA allowed local groups to petition local courts to stop an action that might harm endangered species. In the case of Tellico, local groups took their opposition all the way to the Supreme Court, where they took on Jimmy Carter's attorney general, and won. This amendment, by potentially taking power back from local opposition groups and putting it into the grasp of high-ranking federal officials, represented a major reduction in the enforcement powers of the ESA.

Debating the Amendments

In the hearings on the amendment, spokespersons for an array of environmental groups joined the director of the Fish and Wildlife Service to urge that the amendment not be passed. An opposing assortment of utility executives and Smithsonian scientists argued that the Act was "too inflexible" and cumbersome as written. Senator Jake Garn (R-UT) went even further, offering an amendment that would allow a state governor the

power to unilaterally waive the requirements of the ESA if no "practical" alternative to the destruction of a species was feasible. Making his views on the utility of the ESA clear, he noted that "I frankly don't give a damn if a 14-legged bug or the woundfish minnow live or die." Garn further predicted that if no amendments easing the Act passed, an angry public would insist that the entire ESA be repealed "in a revulsion against environmental excesses."[27] It was admittedly unlikely that the public would ever demand full repeal of the still-popular Act, and Garn's amendment empowering state governors went nowhere. But it was also undeniable that Garn was channeling very real collective frustrations of those Americans who thought the Act, as currently on the books, was too expansive, too powerful, and too predisposed against projects that would benefit human populations.

Though Garn injected his rhetoric with more than a bit of hyperbole in the pursuit of ESA modifications, his Senate colleague Culver concurred with the basic idea that *something* needed to be done to quell public opinion. Culver told the hostile environmentalists at the hearing that he sympathized with their aims and supported the goals underlying the ESA, but also cautioned that irritation with the Act was reaching critical mass, especially among the business community. The ESA had already caused a vast array of projects to be delayed or cancelled, and would certainly continue to do so with future endeavors as well. "[S]torm clouds" were forming over other projects whose parameters contained "irresolvable conflicts" with endangered species, Culver said, and constituents already suspicious of the ESA would see their patience running ever thinner. The longer Congress delayed amending the ESA, the more projects would be jeopardized, Culver warned, and the more outraged the public would become. A

[27] *New York Times*, 14 April 1978.

reasonable amendment to the Act, Culver argued, was needed to stave off the prospect of more restrictive amendments in the future.[28]

The debate over the amendments played out in the pages of national newspapers. Near the end of June 1978, Alex Radin, the Executive Director of the American Public Power Association (an advocacy consortium of public utilities from across the nation), published an indignant letter to the editor in the *New York Times*. He largely echoed Culver's warnings about the need for reform, taking issue with an *NYT* editorial from earlier in the month that had deemed the ESA not obstructive. In light of the Supreme Court's decision to halt the completion of Tellico Dam, it was clear to Radin that the Act was "deliberately inflexible," since a $119 million project was being blocked by the snail darter, which itself was merely one out of 116 similar species of darter fish. Clearly, Radin argued, something was badly askew. In the problem of reconciling adequate energy supply with protecting endangered species, "[s]ome compromises have to be made, but the [ESA] apparently allows for none." He was wary of the congressional proposal for an interagency review board, predicting that the board would be weighted in favor of environmental interests. Instead of a simple majority vote, five members out of seven had to agree to bypass ESA requirements, a high threshold to reach. Radin did not make his preferred alternative clear, but urged major, not incremental, reforms to the ESA.[29]

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[28] Ibid. The prospective mindset of the review board would, of course, depend significantly on the ideological orientation of the incumbent president, who would be in charge of appointing six of the seven members of the board.

[29] *New York Times*, 24 June 1978.

Environmentalist Responses

The environmentalist rejoinder to these critiques found a particularly strong yet confusing voice in a summer 1978 *Los Angeles Times* column by Peter Steinhart, a naturalist and journalist with a special interest in the biodiversity of his native California.[30] The article, which managed to be both well-written and dripping with sarcasm, was also self-contradictory. Steinhart started by mocking the Tennessee state legislature, which had recently expressed support for building the Tellico Dam on the grounds that plants and animals were constantly evolving and being discovered by science. Since biologists and taxonomists were constantly identifying small populations of new species, the legislature said, trying to protect every endangered species meant that the biological fact of evolution was a threat to human progress itself, necessitating a change to the ESA.[31]

Steinhart then chided environmentalists for their approach to endangered species. Stories such as that of the snail darter, Steinhart opined, usually extracted one question from the public: "What good are they?" Hastening to respond, Steinhart said, environmentalists "rush to their typewriters and spill out a few thousand words" about some obscure species in danger. Focusing the debate on endangered species themselves, Steinhart warned, circumscribed the argument in a way that ultimately disadvantaged the environmentalist side. Instead, the broader parameters of the debate should be teased out and exploited by those who opposed large-scale construction projects. In the case of Tellico Dam, for example, environmentalists should have asked, "Was it necessary for

[30] *Los Angeles Times*, 2 July 1978. Steinhart later published a book-length study of endangered species in California; see *California's Wild Heritage: Threatened and Endangered Animals in the Golden State* (Sacramento: California Department of Fish and Game, 1990).
[31] Ibid.

TVA to condemn private homes and farmlands for resale to industry at a profit?" Furthermore, "what of the assertion by the General Accounting Office that TVA's cost-benefit analysis was hopelessly faulty?"[32]

Yet Steinhart's critique had been made again and again during the Tellico Dam debate itself, with little practical effect to show for the effort expended. As Zygmunt Plater, the lead counsel for the anti-dam coalition in the snail darter case, pointed out in retrospect, the Endangered Species Act was the last resort to stop the dam exactly because the other criticisms of the project had found little resonance in public discourse:

> The farmers [who would have been displaced by dam] and their allies, however, found it virtually impossible to get anyone in power to listen [to their complaints about their own fates or the lack of economic sense within the TVA's analyses]. They tried, fighting against the land condemnations, carpooling to Washington to testify against the project, writing letters to local newspapers. For a short time they were able to halt the project because TVA initially refused to do a required environmental impact statement. But the federal agency, supported in Washington by the pork barrel…ultimately overrode every citizen effort to block the dam. Demoralized by a string of battles lost, the local dam fighters saw their ranks grow thinner and thinner year by year. Then a small fish swam into the controversy, discovered under the swift currents of the Little T River. The fish was clearly endangered, and federal law said any federal agency action jeopardizing an endangered species violated the Endangered Species Act.[33]

Steinhart was thus chastising dam opponents for failing to do something that had clearly already been tried and been found not to work. Even more contradictory, he returned at the end of his article to make a very point that he had already criticized. He had begun his article with a critique of environmentalist tendencies to concentrate on "the value of an obscure animal." Since the question was often unanswerable in the present moment and it often took years to realize a hidden benefit that could be obtained from an

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[32] Ibid. Like many large, multiyear federal projects, the Tellico Dam had seen its projected final cost rise steadily over time, which drew more critiques from dam opponents but did not pose a serious threat to the dam's construction.

[33] Plater, *The Snail Darter and the Dam*, 3.

endangered plant or animal, this strategy advantaged those who could emphasize immediate, quantifiable economic benefits to humans. Yet at the conclusion of his article, Steinhart returned to this same line of thought as if he had come up with it himself. Deploring a proposed ESA amendment that would allow the Fish and Wildlife Service to decide that two or more subspecies are similar enough to be lumped together under the Act, which would likely classify the more than one hundred species of darter fish as one species for purposes of the ESA, Steinhart complained that this might lead to the elimination of populations that were uniquely useful. "For until we can…honestly and accurately say that the northern monkshood holds the secret of eternal life or the Santa Catalina bushmallow is no good now and never will be – we must do what we can to save them all."[34] This was precisely the type of argument that Steinhart, at the beginning of his column, had chided environmentalists for falling back on.

Steinhart's retreat to posing a "what good are they?" question demonstrated the constrained parameters available to environmentalists in the endangered species debate. Endangered species law was clearly impeding projects that would have been of undeniable economic benefit of humans, and environmentalist critiques of development inevitably boiled down to the notion that a species might, at some point in the future, prove of enough benefit to humans to warrant non-development now. In an era of increasing economic pain for many American consumers, such an argument was becoming progressively more difficult to make with much success. The flimsy logic of Steinhart's newspaper column reflected the problems that environmentalists faced in the unfolding debate.

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[34] *Los Angeles Times*, 2 July 1978. For a response to this argument see Mann and Plummer, *Noah's Choice*, 132-34, who argue that saving *every* species would grind human civilization to a halt."[B]iodiversity as a whole has overwhelming utilitarian value," they claim, "but most individual species do not."

Decisive Outcomes in Congress

Not two weeks after the publication of Steinhart's July 1978 column, the US Senate voted overwhelmingly to amend the ESA, creating the proposed interagency review board. Three months later, the House voted for its own version of the ESA amendments, and soon agreed to adopt the Senate version. The *Washington Post* did not mince words that fall with a September 29 headline declaring simply that the "Endangered Species Act is Dying." Recognizing the rising unpopularity of the ESA within Congress and the heavy pressure for change, environmentally-inclined representative John Dingell (D-MI), had reportedly been working nonstop to maintain a "holding action" of offering compromises in Congress and averting moves to gut the Act or kill it outright.[35]

Dingell's mindset and congressional agenda told the dramatic story of the ESA's rise and fall. In just a few short years, the Act had been transformed from an unstoppable force which no politician dared oppose into a beleaguered and besieged law whose future was quite unsure indeed. Keeping the ESA as originally written was not an option, as Dingell recognized. The choice was between either a significantly-amended Act or full repeal. And in November, in the face of immense congressional support for the amendments, President Carter reluctantly signed the amendments and made them law. Though Carter generally supported environmental protection, continuing economic sluggishness compelled him to do something to remove perceived obstacles to growth.[36] Upon entering office, Carter had pledged to cut back a number of specific pork-barrel water projects, seeing them as both wasting money and damaging local ecologies. The

[35] *Washington Post*, 29 September 1978.
[36] Ibid; Shannon Petersen, *Acting for Endangered Species: The Statutory Ark* (Lawrence: University Press of Kansas, 2002), 63-64.

president quickly found himself drawing ire from legislators who had grown accustomed to reliable money for local water projects, and, realizing that he needed to repair relationships with Congress to pass other priorities, moved to make amends.[37] Thus when it came to the Tellico case, the president had little choice, given the sentiments in Congress, to go along with the snail darter-inspired opposition to the ESA, lest he provoke another backlash.

The prestige of the ESA took another hit in early November 1979 when around 1,700 plants and a hundred animals were dropped from consideration for ESA protection due to Interior Department inaction. The 1978 amendments also required that if a species had been proposed for protection and the agency had not acted on it for two years or more, the agency then had one year to place it on the endangered or threatened list or it would automatically be dropped from consideration. No longer could the proposed rolls of endangered species fill up endlessly; decisions one way or the other had to be made. Environmentalists blamed bureaucratic ineptitude for the dropped listings and claimed that the Service's incompetence would lead to multiple extinctions, but more likely was the possibility that the Fish and Wildlife Service had simply grown tired of congressional pressure and had consciously sought to avoid any more confrontations.[38]

The categories of dropped listings were telling. Americans had broadly supported the ESA when it protected "charismatic megafauna" like wolves, bears, moose, and eagles.[39] Plants, mollusks, insects, and other animals without backbones had proved far

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[37] See Jeffrey K. Stine, "Environmental Policy during the Carter Administration," in Gary M. Fink and Hugh Davis Graham, *The Carter Presidency: Policy Choices in the Post-New Deal Era* (Lawrence: University Press of Kansas, 1998), 185; John Dumbrell, *The Carter Presidency: A Re-evaluation* (New York: Manchester University Press, 1993), 40. The Dickey Dam in Maine, discussed later in this chapter, was among one of these initial proposed cuts.

[38] *Chicago Tribune*, 7 November 1979.

[39] The "charismatic megafauna" phrase comes from Petersen, *Acting for Endangered Species*, 3.

less likely to receive public sympathy. Indeed, out of the approximately one hundred animals being dropped, only one – the black toad – was a vertebrate. The rest were invertebrates like the Madison cave isopod, a type of freshwater shrimp. The prospective extinction of these obscure invertebrate species would likely have inspired a collective yawn from the broad American public, and the Interior Department was thus taking little political risk by letting their protections expire. It was simpler and easier for the exhausted Interior Department simply to allow protective statuses for these species to run out and thus draw sporadic environmentalist complaints than to provoke further clashes with irate members of Congress.[40]

The irony of the Endangered Species Act amendments, though, is that although they had largely been spurred to passage by the Tellico Dam saga, they did not themselves resolve the controversy dragging on in East Tennessee. The new exemption committee voted *not* to exempt the Tellico Dam from the Endangered Species Act, claiming that the project's economic and social benefits did not "clearly outweigh" the negative impacts. Also ironically, the snail darter was scarcely a factor in the committee's decision. Instead, looking at the hard numbers, the committee decided that the dam would not generate enough economic benefit in the region to justify its multimillion-dollar cost. In other words, it simply was not worth the money.[41] Though the snail darter was barely a consideration, the committee's refusal to grant an exemption meant that the dam's completion was still not legally allowed under the ESA. Dam proponents had one last

[40] Petersen, *Acting for Endangered Species*, 63-64.
[41] Ibid, 65.

idea to try to circumvent the snail darter and finish the project, and it required some congressional maneuvering.[42]

In 1979, on a day when most legislators were absent, Tennessee representative John Duncan attached a rider to the Energy and Water Resources Appropriation exempting Tellico from the ESA, and the appropriation passed with few caring that the exemption had been written in. The Senate deleted the amendment in its version, but Duncan – along with Senator Howard Baker, who called in as many favors as possible – ensured its return in conference. Passing both houses, the bill was signed by President Carter, who was under pressure to support energy projects while the Iranian Revolution was causing oil prices to spike. TVA finally finished the dam, the environmentalist opposition having been defeated by an anticlimactic legislative proceeding. In November 1979, the long saga of Tellico came to a quiet and strange conclusion.[43]

In the end, the dam validated both the optimistic predictions of its boosters and the fears of its detractors. Though promised industrial development never materialized around the dam – another case of unfulfilled expectations – the dam did catalyze the development of a number of suburban communities around the new lake, which provided ample boating and swimming opportunities. Yet, it also dispossessed a number of small farmers of their land, and the project finished severely over budget. Observers who looked upon Tellico as either an exciting opportunity or a tragic boondoggle each found evidence to support their claims.

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[42] Patrick Allitt, *A Climate of Crisis: America in the Age of Environmentalism* (New York: Penguin, 2014), 124-27.

[43] Ibid; Hargrove, *Prisoners of Myth*, 177; Mann and Plummer, *Noah's Choice*, 170-73. Ironically, almost a year after the dam was completed, David Etnier, who had originally discovered the snail darter, located another population in a different portion of the Tennessee River sixty miles downstream from Tellico.

The Origins of Dickey Dam

Among hydroelectric projects of the 1960s and 1970s, the Tellico Dam controversy has received by far the most attention from historians and legal commentators, and for good reason. It was a key event that helped turn public and congressional opinion against the Endangered Species Act. Yet there was another major but less well-known case, one that involved the prominent senator Edmund Muskie and also witnessed an extended battle between environmentalists and pro-development advocates. The story of the Dickey Dam, while unfolding with quite different dynamics and within different parameters than the Tellico saga, further helped discredit endangered species legislation in the public arena. Putting the story of Tellico alongside that of Dickey shows that, whether a potential hydroelectric project was actually completed or not, the intrusion of the ESA into the debate helped discredit environmental regulation.

Like Tellico, Dickey began as a mid-1960s effort to bring power and jobs to a rural area. In 1965, the US Congress authorized the Army Corps to Engineers to begin the construction of a project called Dickey Dam, a project the Corps supported, which would be located on the St. John River in northern Maine near the Canadian border. New Englanders hoped that the project would bring jobs and cheap electricity, much as the TVA had done in the Southeast. In practice the formal authorization had little consequence. Congress refused to appropriate any money for the project, despite the consistent support of the powerful senator from Maine, Edmund Muskie. Appealing to historical precedent, proponents implored Congress for money to begin preparing the site. Government-produced electricity, they said, would have provided a "yardstick" to shame New England utilities for their perceived exorbitance, again much as the TVA had done

in the Southeast. Private power interests fearing government competition, though, succeeded in holding off construction for the better part of a decade, preserving their dominance in the power market.[44]

The 1973 oil embargo changed the parameters of the public-private controversy. With electricity bills for consumers skyrocketing around the country, especially in the frigid winters of New England, utility executives decided it would be "unseemly" to appear opposed to new energy supplies from any source, and they relented in their opposition. By the middle of 1974, a start to the construction of the project seemed a distinct possibility for the first time in several years.[45]

Even with private utilities relaxing their opposition, the contrast between the condition of the proposed site and the magnitude of the prospective project in 1974 was nothing short of astounding. The town of Dickey, after which the dam would be named, consisted merely of a few homes and a Shell gas station. The local post office had long since closed. Slated to stretch nearly ten thousand feet between two mountains and to soar over three hundred feet above the St. John riverbed, the dam would flood this small group of buildings. Dubbed by the *Wall Street Journal* as an "Aswan Dam for Maine" after the massive structure located on the Nile River in Egypt, the dam would be the eleventh largest in the world. Though located in an area that could have hardly been

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[44] *Wall Street Journal*, 25 July 1974. The public-private controversy had unfolded during the early years of the TVA, with TVA winning; see Richard A. Colignon, *Power Plays: Critical Events in the Institutionalization of the Tennessee Valley Authority* (Albany: State University of New York Press, 1997), 250-55. On TVA as a "yardstick" (Franklin Delano Roosevelt's phrasing), see 105. For the best book-length treatment of private power's resistance to public encroachment see Karl Boyd Brooks, *Public Power, Private Dams: The Hells Canyon High Dam Controversy* (Seattle: University of Washington Press, 2006).

[45] *Wall Street Journal*, 25 July 1974.

called even sparsely populated, a completed dam would send electricity throughout New England.[46]

Environmentalists expressed vehement opposition. The Friends of St. John, a Boston-based group, argued that the dam and the hundreds of miles of transmission lines would ruin an astonishing 110,800 acres of "the last remaining wilderness area in the northeast." Chairman of the group Paul Swatek feared that fifty-seven miles of "the best white water canoeing in the northeast" would be lost forever. The effect on wildlife was a concern as well. Swatek pointed to the approximately two thousand deer that spent their winters in the area, as some 13,000 acres that they inhabited during the cold season would be inundated by the dam.[47]

The Friends of St. John critiqued the project on a fiscal basis too. Opponents claimed that the dam's benefits paled in comparison to the costs: Dickey would only be used for peaking power (run only in periods of high demand, in other words), since the river contained very little water. One newspaper's description described it as "a ribbon of rocks through the wilderness." The river's limited flow capacity meant that the dam would operate a mere three hours a day, as the reservoir behind the dam would otherwise get too low in the dry summer to generate any power at all. The sporadic usefulness of the dam, opponents said, was hardly worth the wholesale environmental devastation it would cause. Even more tragic, they said, was the forced relocation of longtime residents from their homes that would have to be carried out.[48]

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[46] Ibid; *Washington Post*, 30 June 1974.
[47] Ibid.
[48] Ibid.

The Pro-Dam Response

A faction calling itself "People of the St. John" provided several rebuttals to these critiques. The generic-sounding name of the pro-dam group was not accidental. All the members of the group lived in northern Maine, an area which stood to receive an economic infusion from the project. The group demanded that the elitist, environmentalist "out of staters" making up the Friends of St. John remove themselves from the debate and allow locals to make decisions about their own land. While environmentalists saw the wilderness areas of northern Maine as a recreational asset to be shared by all New Englanders, dam proponents were concerned about those who lived nearby. In response to wildlife and landscape concerns, the Army Corps of Engineers asserted that the dam complex would be built carefully to cause minimal impact to native ecosystems. Colonel John H. Mason, the Corps' chief engineer for New England, said that public hearings would likely be held to allow environmentalist grievances to be aired. He also promised that his organization would submit an environmental impact statement to the President's Council on Environmental Quality (CEQ).[49]

Dam supporters conceded that some people would be forced to leave their residences if the structure was built. But few people lived in the immediate area and the entire region would benefit from the dam's power generation, the People of St. John said, arguing that the needs of the many outweighed those of the rural few. On the issue of peaking power, proponents admitted that the dam was not capable of remaining in operation around the clock. But they also said that tallying the number of hours per day the dam would be in operation was misleading and missed the bigger picture. The dam's

[49] Ibid. The CEQ had recently been created under Nixon as an advisory committee to the president. See J. Brooks Flippen, *Conservative Conservationist: Russell E. Train and the Emergence of American Environmentalism* (Baton Rouge: Louisiana State University Press, 2006), 2.

aggregated use, even for only a few hours each day, would reduce New England's power bill by about $40 million over the course of a year, proponents pointed out, which was the important figure.[50]

For some other local supporters, backing emanated from a more pressing concern, the floods that were increasingly damaging the area's farmland. Robert Jalbert, a lawyer in the nearby town of Fort Kent and a registered Maine wilderness guide, was a representative figure. Having long opposed the dam, in mid-1974 Jalbert shifted his view. His conversion was not attributable to the jobs that would come into the area, but instead the effects of recent changes in the lumber industry. The past handful of years had witnessed the introduction of the "skidder," a large vehicle used for dragging and pushing trees. The technology increased the lumber industry's yield to the point of being able to strip hillsides of trees completely. When snow came in the winter, not only was there no shade to slow melting, but hillsides could no longer absorb excess water. The quicker, bigger runoff was generating disastrous floods that damaged nearby farms. Jalbert critiqued the lumber industry's irresponsibility – "They believe they have to harvest [the forest] like a garden," he said – but conceded that, within the current system, nothing could be done. "It's a capitalistic system and they own that land," he acknowledged. Though the Corps had a plan to flood a series of dikes to protect Fort Kent, Jalbert was not convinced that this would be sufficient. Only damming the St. John's waters would provide lasting protection.[51]

Especially noteworthy was Senator Muskie's support. As the architect of the modern federal Clean Air and Clean Water Acts, Muskie's status as one of

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[50] Ibid.
[51] *New York Times*, 26 August 1974.

environmentalism's most stalwart supporters in Congress might render his advocacy for the dam puzzling.[52] There had indeed been a long historical tension within environmental thought, dating back to the struggles between nature mystic John Muir and US president Theodore Roosevelt in the early 1900s. The conflict was between conservationism, the idea that natural resources should be protected from wanton exploitation in order to provide for sustainable economic growth, and preservationism, the idea that natural resources should be protected for their inherent aesthetic qualities.[53] Conservationists did not view wilderness protection and economic development as mutually exclusive goals; indeed, it considered them complementary, but preservationists did. As Paul Milazzo has argued, Muskie was primarily a conservationist, seeing water as a scarce natural resource essential for regional development. His water legislation was therefore meant not to protect waterways *from* human impact, but to turn their inherent value to the benefit of the maximum number of people possible. His 1965 Water Quality Act, a precursor to the 1972 Clean Water Act, targeted cleanup of industrial discharges but did not seek to prevent water resources from being used for economic growth. Holding polluters responsible for their actions was meant to preserve water as an asset that could benefit all residents in an area.[54] In fact, as preservationists seemed to ignore, one of Muskie's primary jobs as a legislator was to bring home government money to constituents. This

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[52] One historian of Richard Nixon's environmental policies argues that Muskie was the foremost member of Congress in "lay[ing] the foundation for an environmental policy that the nation needed" in light of the industrialization and consumer culture of the postwar era; see J. Brooks Flippen, *Nixon and the Environment* (Albuquerque: University of New Mexico Press, 2000), 7. Muskie's support for the dam against environmentalist opposition was thus not insignificant.

[53] See Michael McGerr, *A Fierce Discontent: The Rise and Fall of the Progressive Movement in America, 1870-1920* (New York: Oxford University Press, 2003), 164-67.

[54] Paul Charles Milazzo, *Unlikely Environmentalists: Congress and Clean Water, 1945-1972* (Lawrence: University Press of Kansas, 2006), 8.

agenda brought the senator into conflict with environmentalists, like the Friends of St. John, less inclined to support water development projects.

Unexpected Setbacks

In 1977, the release of the long-awaited, two-years-in-the-making Army Corps of Engineers impact study must have come as a shock to this varied group of dam supporters, and as a gift to environmental opponents. It stated plainly that "there would be a reduction in the long-term productivity" of the area's economic future if the dam was built. Though the nearly-two-hundred page report noted that there would be short-term gains in electric power production and recreational opportunity on the prospective lake, they would be far outweighed by the long-term downsides. As the *New York Times* reported, the statement "painted a grim picture of flooded timberlands, destroyed canoe and fishing rivers and wiped-out deer herds." In the time since construction had become a serious possibility, environmentalist heavyweights like the Sierra Club, Audubon Society, Friends of the Earth, and Greenpeace had joined the Friends of St. John to oppose the project.[55] While dam supporters seemed to have the upper hand in the debate in 1974, the dynamics of political influence had clearly shifted in the intervening years as the more lasting environmental consequences became apparent.

Environmentalists had also found another, more powerful, weapon, the same wielded by opponents of Tennessee's Tellico Dam, the Endangered Species Act. In 1976, as part of preparation for the site, the US Army Corps of Engineers hired Maine botanist

[55] *New York Times*, 2 September 1977. On national environmentalist involvement, see, for example, Testimony of the National Wildlife Federation at a Public Hearing Conducted by the US Army Corps of Engineers, 14 November 1977, box 7, folder 10, Senate Office and Committee Staff Files (hereafter MS), Edmund Muskie Papers, Bates College.

Charles Richards to identify potential "rare and unusual" plants in the project area. The discovery near the dam site of a few clumps of a greenish-yellow wildflower named the Furbish lousewort (after botanist Kate Furbish), not known to exist anywhere else, threatened to bring the project to a halt and compelled the Corps to act. The Act required that federal agencies could not take any action that would jeopardize the continued existence of a listed species or its habitat, which dam construction clearly would. The menace to the project's future was enough to compel the Corps to spend $17,000 and two summers scouting a three-hundred-mile stretch of the St. John to try to locate other communities of the flower.[56]

While conceding the broader environmental concerns and doubts about the limited production possibility of the dam, *Time* called the idea that the lousewort alone would hold up the project "downright silly." The magazine seemed quite satisfied to report that the engineers, after their long search, had "proudly announced" the discovery of "no less than five clumps" of lousewort "safely beyond" the proposed dam site. "What is more," *Time* declared triumphantly, the Corps had also concluded that "the exotic flower can be cultivated elsewhere."[57] As was clear from the magazine's tone, the Endangered Species Act was one regulatory measure whose reach seemed far too broad. The idea that a few clumps of flowers would by themselves impede a nearly $700 million project seemed to the periodical to be simply ridiculous. For *Time*, as well as for other national periodicals, the delicate balance between protecting vulnerable species and

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[56] "In Search of the Elusive Lousewort," *Time*, 19 September 1977; NED Policy Statement on Furbish's Lousewort at Dickey-Lincoln School, 15 November 1976, box 7, folder 11, MS. On the Endangered Species Act's requirements that potential alternative habitats be located, see Kathryn A. Kohm, "The Act's History and Framework," in Kathryn A. Kohm, ed., *Balancing on the Brink of Extinction: The Endangered Species Act and Lessons for the Future* (Washington, DC: Island Press, 1991), 17.
[57] Ibid.

cultivating development projects to benefit human populations had moved entirely too far in one direction.[58]

And with the project still in the planning stages, it was still susceptible to new strains of criticism. Many government projects see their projected budgets increase steadily as time goes on. The bigger a project is and the longer it takes to complete, the more difficult the final cost is to estimate, which often leads cost assessments to rise through the life of a project's planning. The Dickey Dam, a multiyear project with costs in the hundreds of millions of dollars, was no exception. In the summer of 1979, for example, the House's Public Works Committee voted to kill the project, the first time that the committee had ever voted to end a major water project after substantial sums – ten million dollars so far – had already been spent. Defying the default urge to support pork-barrel projects, both Maine House members, Republicans Olympia Snowe and David Emery, supported de-authorization. So too did one of the state's senators, Republican William Cohen. With Senator Muskie's continued support, however, de-authorization faced a challenge on the Senate floor, and the measure indeed failed.[59]

Yet, other events unexpectedly impinged upon this hydroelectric political situation. In 1980, President Carter authorized the secret Operation Eagle Claw, a daring desert rescue involving several helicopters, to liberate the hostages being held in Tehran. Carter's Secretary of State Cyrus Vance, who had often clashed with the hawkish National Security Adviser Zbigniew Brzezinski, resigned as soon as Carter approved the mission, deeming it far too risky, and his concerns turned out to be prophetic. The

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[58] Other periodicals published similar sentiments as those in *Time*. The *Washington Post* made almost the same argument as *Time* during the previous April; see the edition for 4 April 1977. The *Los Angeles Times* published a letter from a resident of Laguna Beach, California, in November 1976 that mocked the possibility of the furbish lousewort stopping dam construction; see the edition for 25 November 1976.
[59] *Washington Post*, 27 July 1979.

mission failed spectacularly when one of the copters became engulfed in a dust cloud and crashed into a transport aircraft, killing eight American servicemen. In response, the Iranian government scattered the American hostages across the nation, making another such rescue attempt impossible. Carter tapped Senator Muskie as Vance's replacement, removing the Mainer from the Senate.[60] Maine's governor Joseph Brennan appointed George Mitchell, a federal judge on the US District Court for the District of Maine, to serve out Muskie's term. With Muskie's exit, the future of Dickey Dam was in serious doubt.[61]

In the spring of 1981, after the election of President Reagan, the Maine delegation submitted legislation to Congress to de-authorize the Dickey Dam, whose projected cost had risen another 20 percent in less than two years and now stood at $900 million. Senator Mitchell was in principle a supporter of the project, "contin[uing] to believe that the entire project merits support" and believing "it will in the future receive the support it deserves." But with Reagan coming to office on the message of deep cutbacks in federal spending, and with local opinion near the St. John turning against the dam, Mitchell agreed to support de-authorization legislation for the time being.[62]

Local opinion had not turned against hydroelectricity in general, but it *had* shifted in favor of a smaller, more focused project, a path also favored by environmentalists as a compromise measure. The Natural Resources Council of Maine (NRCM), formed in 1959 to oppose large hydroelectric projects, expressed support for the proposed Lincoln School Dam a few miles down the river from the prospective Dickey. Though the Lincoln School Dam would produce only a small fraction of the potential output of the

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[60] Sean Wilentz, *The Age of Reagan: A History, 1974-2008* (New York: HarperCollins, 2008), 118-19.
[61] *Christian Science Monitor*, 29 September 1981.
[62] Ibid.

larger dam, it would also affect less than five thousand acres of wilderness land – compared, of course, with over 110,000 for the Dickey – which made it a compromise that seemed worthwhile. More important to locals was the use of the power. Nearly eighty percent of the Dickey's output would have been transmitted from Maine to other states in New England, but the Lincoln School's power would remain in the area for local use. Though some St. John locals continued to believe in the Dickey's superior potential for economic development, the NRCM and other environmentalist groups succeeded in turning others against the project by compromising in favor of a more diminutive alternative.[63]

Still other Mainers had become anti-dam converts for fiscal reasons, becoming ever more suspicious as cost estimates grew, and politicians used the issue to garner votes, with no physical construction to show for the money being spent. Contractor Clark McBreaity, who had once supported the dam but had gradually come to oppose the project, was one such resident. "Every time a candidate ran for office," McBreaity remarked, "he run [sic] up and down New England whooping and hollering" about the dam's potential, using the perpetually un-begun project for their own political gain. As time went on, the hype surrounding the Dickey's economic possibilities faded in the St. John area, replaced instead by suspicion and skepticism. As the *Christian Science Monitor* noted, this independent-minded rural area had always been suspicious of

[63] Ibid. The Lincoln School Dam was projected to produce 202.6 million kilowatt-hours of energy per year, compared to 1.45 billion from the Dickey. The NRCM had, in 1977, opposed both dams, but compromised in favor of the smaller Lincoln after the second energy crisis of the late 1970s. On the NRCM's previous opposition to both projects see Testimony of Chris Herder (NRCM Director} at Augusta Public Hearing, 26 October 1977, box 7, folder 10, MS.

government intervention, and the enchantment of the Dickey's potential had finally run out.[64]

Still another logistical problem had to do with the relocation of the families living on the land potentially affected by Dickey. The small town of Dickey itself was a Scotch-Irish enclave, but the surrounding countryside was populated largely by French-Canadians. The government could have provided money to assist in relocating the Dickey families, but regulations prohibited paying to move the 161 Dickey families more than fifty miles, which was not far enough to get them out of French-speaking territory. The Dickey families' reticence to move to an area in which they would be surrounded by speakers of a foreign language also imperiled the dam's future.[65]

The End of the Dam

The final nail in the coffin for the project came when the Interior Department expressed opposition to it. James Watt, Reagan's appointee to head the department, had drawn early and intense fire from environmentalists when he moved to roll back environmental regulations and to expand leasing of federal lands to coal mining companies.[66] But in the midst of the Dickey debate, Watt was on an extended tour of the Western states and was not in day-to-day control of the department. Therefore, when Acting Secretary Donald Hodel expressed opposition to the dam on environmental grounds, it was he who was speaking for the Interior Department. Hodel cited destruction

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[64] Ibid.
[65] Ibid.
[66] Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), 494-95; Allitt, *A Climate of Crisis*, 160-64. Courts later determined after environmentalist litigation that Watt had exceeded his authority by unilaterally scaling back congressionally-passed environmental regulations.

of black duck breeding grounds and the loss of summer foraging areas for moose in taking a stand against the project, as well as the migratory deer areas emphasized by the anti-dam Friends of St. John years earlier. As it turned out, Watt himself was also against the dam, bringing him into rare agreement with environmental activists, although Watt's opposition probably owed more to with Reagan's desires to cut back on federal water projects. Declining energy demand in the early 1980s, which made many energy projects seem much less necessary, did not help Dickey's prospects either. Though the Corps made one last appeal to public opinion, officials conceded that the united front presented by Maine's congressional delegation and the Interior Department made its construction "unlikely" to ever happen.[67]

Indeed, ground was never broken for construction on Dickey Dam, and neither was the smaller Lincoln School alternative built either. After years of debate and congressional wrangling, the issue was effectively dead. There were therefore many differences between the Tellico Dam debate in East Tennessee and that of the Dickey in northern Maine. First and most obvious was the final result. While the gates of Tellico Dam were closed in 1979, turning a portion of the Little Tennessee River into a reservoir, Dickey Dam simply faded into obscurity in 1981 when the Corps gave up on the project. The Tellico Dam involved intense controversy over the cozy relationship between the quasi-public TVA and private industry in forcing small family farmers from their land, bringing an extra level of scrutiny not present in the Dickey Dam debate, which had instead witnessed a confrontation between public and private interests. Local opposition

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[67] *Washington Post*, 30 September 1981; *Los Angeles Times*, 1 October 1981. Reagan had recently announced his intention to drastically cut back funds for federal water projects for the time being as a budget-cutting measure, then gradually shift federal money to Western state governments to let them develop Western hydropower. Maine, obviously not a Western state, was very low on Reagan's list of hydroelectric priorities. See *Christian Science Monitor*, 3 March 1981.

in East Tennessee against Tellico was also much fiercer than in northern Maine against Dickey, as the area around the proposed Dickey site in Maine was largely unpopulated and would not have involved forcing farm families off of their land to the extent that it did in Tennessee.

There was, however, also one important similarity to be found in the two dam sagas, one that overwhelmed all the diverse differences. The Dickey Dam battle, with a divergent set of circumstances and a different outcome from that of the Tellico Dam, nonetheless witnessed a comparable debate surrounding the Endangered Species Act. There were many compelling arguments in favor of Dickey, including the economic opportunities to be brought to the St. John area, as well as the electricity that would flow throughout New England. There were also compelling reasons to oppose the dam, such as the negative effects on human recreational opportunities in wilderness areas and the disruptions to both migratory and permanent habitats of extensive varieties of birds and mammals. But national periodicals seemed to agree on one thing: the Furbish lousewort should not be part of the deliberation.

The idea that a few clumps of wildflowers should control the fate of Dickey Dam seemed to many observers to be just as ridiculous as the tiny snail darter's influence on the Tellico in East Tennessee. For these analysts, the reach of the Endangered Species Act had again proved itself far too broad, protecting small populations of useless and unneeded species at the expense of projects that otherwise turned on sums in the hundreds of millions of dollars and land areas of thousands of acres. The ability of the Endangered Species Act to assume such a disproportionate power in these debates was, for many commentators, more than unfortunate. It was unjust and unfair. The public may

have assumed that Congress was protecting well-known endangered animals like whales and pandas when it passed the Act in 1973, but with thousands of species listed, it was doing much more than that. In some cases, including those of Dickey and Tellico Dams, many constituents and interest groups came to think that the Act needed to be brought under control.

Endangered Species Law

Though it was overwhelmingly popular in public opinion at the moment of its passage, the Endangered Species Act was more controversial in professional circles. Several distinct criticisms, both on scientific and economic grounds, emerged. First, there was the matter of defining exactly what a "species" was, especially in terms of where one began and another ended, itself a tricky epistemological exercise.[68] Second, the broad-reaching and inflexible nature of the law could interfere with other common-sense actions meant to protect the environment. For example, in 1979 a federal judge in Los Angeles barred the EPA from acting to reduce municipal sewage discharges from the city into the Pacific Ocean. Since the EPA's treatment would remove nutrients from the water that supported a fish population around the discharge point, and since the fish provided a vital source of food for both the endangered brown pelican and the endangered gray whale, the judge ruled that the EPA's plan would indirectly jeopardize the two predators. Though, an attorney for the National Wildlife Federation called the ruling "absurd on its face," a characterization broadly expressed by other environmental groups, the EPA was nonetheless legally barred from trying to clean up the ocean.[69] As this case demonstrated,

[68] Mann and Plummer, *Noah's Choice*, 28-29.
[69] *Wall Street Journal*, 21 March 1979.

the strict terms of the Act, which privileged the survival of individual species – sometimes with several degrees of separation from a proposed action – at the expense of the overall health of broader ecosystems, could generate nonsensical outcomes.

But by far the most common criticism of the Act was that it unfairly impeded seemingly reasonable attempts at economic development, halting projects that could create wealth and improve standards of living merely for the sake of the survival of small, useless animals barely worth protecting. The Tellico and Dickey controversies may have ended, but this underlying unease with the reach of the Endangered Species Act did not end with the closing of either the Tellico's gates or the quiet death of the Dickey.

Even with the ESA amended in 1978, rare and endangered species continued to confound water development projects. Not only hydroelectric development was affected; water-dependent technologies meant that rare fish impinged upon fossil fuel production as well. Near the end of 1980, the Interior Department declared that it had found three endangered fish – the Colorado squawfish, the humpback chub, and bonytailed sucker – swimming in the muddy waters of the White River in northeast Utah. The finding jeopardized Utah's plans to construct the White River Dam and a 105,000 acre-foot reservoir, both of which were essential to developing the state's oil shale and tar sands resources. Petroleum can be extracted from tar sand, a gooey mixture of sand and heavy crude, and oil shale, petroleum-impregnated rock, but the process requires heat, solvents, and billions of gallons of water.[70]

Utah had planned to start construction of the dam in August 1981 and complete it by early 1984, which would have allowed private energy companies to use the water by 1985. But the discovery of the fish threatened to delay the dam by a year or more. Utah's

[70] *New York Times*, 7 December 1980.

governor Scott Matheson suggested that Congress give states a larger role in enforcing the ESA. "I think we ought to have a modicum of jurisdiction on our future," said Matheson. Expressing frustration at the conflicting demands of energy and environmental protection, the governor noted that "We're caught between two public policies and trying to meet the objectives of both," both energy development and "the welfare of the Colorado squawfish."[71] Even with the ESA amendments having been passed in 1978, there would clearly still be conflicts and controversies over the Act's implementation and enforcement. And like Dickey Dam, the prospective White River dam was never built. The questionable technological feasibility of processing oil shale in a cost-effective way combined with ESA concerns to stall the project indefinitely.

The lasting effect of the amendments to the ESA was indeed mixed. Despite environmentalist worries, only one time – in the 1990s, with regard to timber sales and the northern spotted owl – has the interagency review board actually granted an exemption from the ESA. That exemption was itself later overturned by a federal court. The board therefore never became either the anti-environmentalist wrecking ball that environmentalists had dreaded or the check on the ESA's more objectionable provisions that Congress had intended.[72] Yet despite this seemingly empty outcome, there is no doubt that the hydroelectric controversies of the 1970s discussed in this chapter helped turn opinion against the ESA and the idea of regulation in general. In the long term, the ESA amendments were admittedly perhaps of little practical consequence. But in the moment of the late 1970s, a time which saw an intense rhetorical and political assault upon longstanding government regulations in many economic sectors, the ESA

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[71] Ibid.
[72] See Petersen, *Acting for Endangered Species*, 65.

amendments, and the sharp opposition to the ESA in Congress, bolstered and amplified the general anti-government sentiment echoing through Washington and the nation.

Speaking in 1979 about proposed deregulation of the trucking industry, President Carter characterized regulation as a bureaucratic nightmare impeding both common sense and economic efficiency:

> Too many trucks are rattling back and forth empty on the road today, burning up precious diesel fuel because the ICC rules prohibit two-way hauling. Some trucking firms can deliver all the ingredients necessary to make soup to a factory, but are forbidden from hauling soup away from the factory. Other rules defy human imagination. Some truckers can haul milk; they can't haul butter. They can haul cream; they can't haul cheese. Others can transport paint in 2-gallon cans; they can't haul paint in 5-gallon cans. Some truckers are allowed to haul bananas; they can't haul pineapple. They can haul pineapple and bananas if they are mixed.[73]

There were, of course, significant differences between trucking (and airline and railroad) regulation on one hand and environmental regulation on the other. The first was designed to protect economic systems from abuse by balancing competing business interests and regulating entry barriers, while the latter was meant to protect people themselves from the actions of business entities.[74] But Carter's characterization of trucking regulation as an anti-common-sense, bureaucratic folly would have been familiar to anyone who had been following the stories of the Tellico and Dickey Dams, in which forgettable animals and plants protected by the Endangered Species Act threatened the construction of massive development projects. The rhetorical strategies invoked to inveigh against both economic and environmental regulation had become barely distinguishable. Though in popular perception it was Ronald Reagan who inaugurated an

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[73] Trucking Industry Regulation Remarks Announcing Proposed Legislation, 21 June 1979, *Public Papers of the Presidents of the United States: Jimmy Carter: 1979*, Book 1 (Washington, DC: Government Printing Office, 1979), 1114.

[74] See Benjamin C. Waterhouse, *Lobbying America: The Politics of Business from Nixon to NAFTA* (Princeton: Princeton University Press, 2014), 32.

era of anti-regulatory, anti-government feeling in the United States, the process of loosening state control over American economic life were well underway during the Carter administration. The weakening of the ESA fit coherently into Carter's broader program of deregulation, an agenda which reached across the trucking, airline, and railroad industries and into the arena of environmental regulation as well.

Concerns about energy security helped roll back environmental legislation, with the Endangered Species Act's ability to block TVA's Tellico initiative making the law appear too broad. But the TVA also played a more direct role in Jimmy Carter's energy policy in a way that intersected with environmentalism. Carter believed that the resources of the massive TVA could be used to promote energy conservation, which would both make the US more secure by reducing its dependence on foreign oil and promote environmental quality by decreasing energy consumption. But again, Carter's policy initiatives took place within an extant political-economic context that complicated his plans. The next chapter explores how Carter's conservationist ideas conflicted with Southeasterners' ideas about the role TVA should play in the region, and how the backlash against Carter's plans further discredited his energy agenda.

Chapter 6: "Hit by inflation like everyone else": The Tennessee Valley Authority in the Era of the Market

The Tellico Dam saga was one major narrative that drew the Tennessee Valley Authority into the ongoing tensions between energy production and environmental protection in the 1970s. Another story had to do with the underlying mission and character of the agency itself. In the chaotic economic climate of the 1970s, it was unclear how the Authority's impressive resources would be used to address the nation's energy problems. Reflecting his expansive energy plans, Jimmy Carter was eager to marshal the TVA's regional infrastructure to benefit the national interest. But members of Congress representing Tennessee and other Valley states were wary of any attempt to increase TVA's scope or slate of activities, as the related costs would lead to increased electric rates for Valley residents. Carter's conservationist programs also injected confusion into the Authority's long-term construction planning, which had relied on predictions of steadily rising demand. The agency was forced to readjust to different trends in demand as consumption slowed. The imperatives of the 1970s energy economy changed and transformed the TVA, but again the complex and unpredictable economic and political context brought further complications to Carter's energy plans. Ultimately, as America entered a political era defined by a deregulatory and anti-government mentality, the TVA suffered a crisis of identity.

The 1970s were a time of confusion in the American macro-economy. Massive, far-reaching institutions like TVA were forced to adjust to new realities in both economic dynamics and in public opinion. As the title of a famous and influential report promulgated by the Club of Rome in 1972 suggested, there were natural "limits to

growth" that would constrain possibilities for human economic expansion in the future, limits that humanity was reaching. Increased population, and the increased use of natural resources that went along with it, would inevitably reach a tipping point that would compel human consumption to slow down, lest humanity wipe itself out by depleting resources necessary for life. *The Limits to Growth* helped crystallize environmentalist fears of continued uninhibited growth. It also spurred many activists and politicians to embrace the goals of resource conservation to stave off societal and environmental collapse.[1] Historians later suggested that fears of overpopulation and overconsumption were perhaps exaggerated, but the fears were real at the time. The idea that robust economic growth could continue indefinitely was seriously in doubt.[2]

Perhaps a better metric for understanding the 1970s than the "limits to growth" paradigm is Judith Stein's recent characterization of the decade as the "Age of Inequality." In Stein's telling, the post-World War II period from 1945 to 1973 represented an "Age of Compression" in which progressive tax rates, significant union strength, sturdy social welfare programs, and other factors helped generate robust purchasing power, upward job mobility, and economic security for the working and middle classes. Underlying this "compression" was relatively curtailed economic inequality, with federal policies helping to guarantee that all economic strata in the United States reaped the benefit of wealth creation. By contrast, the "Age of Inequality" saw oil crises, the rise of the financial sector, and the decline of union strength broadening income inequality and eroding the economic and political power of the

[1] On *The Limits to Growth* see David E. Nye, *Consuming Power: A Social History of American Energies* (Cambridge: The MIT Press, 2001; orig. 1998), 227.
[2] For a historical critique of the idea that resources were running out see Patrick Allitt, *A Climate of Crisis: America in the Age of Environmentalism* (New York: Penguin, 2014), 79-89.

middle and working classes, to the benefit of the nation's very wealthiest and to the detriment of almost everyone else. Inflation severely affected working- and middle-class purchasing power, with rapidly rising prices across the economy hurting consumers' pocketbooks.[3]

Whether one understands US history in the 1970s as an era of limited growth prospects or as an age of inequality, a similar basic narrative underlies both paradigms. In the 1950s and 1960s, the US had maintained impressive economic growth by creating a process in which businesses offered Americans reliable and high-paying jobs, which galvanized consumer spending, which increased business revenues, which encouraged businesses to hire more workers and pay them more, which kept a cycle of economic growth going in perpetuity. High taxation kept individuals from becoming too wealthy and also funded programs like food stamps, Social Security, Medicare, and Medicaid, which allowed low-income individuals to participate in consumer culture. Regulation in industries like banking, airlines, railroads, and trucking guaranteed certain profits to some businesses but also, prevented them from exploiting consumers.[4] The federal government worked vigorously to keep supply and demand balanced, preventing either inflation or unemployment from becoming a significant problem.

But this seemingly vigorous system unraveled in the early 1970s when the combined spending of the Great Society and the Vietnam War turned moderate inflation into a upward spiral of rising consumer prices, when the oil embargo hurt the US

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[3] See Judith Stein, *Pivotal Decade: How the United States Traded Factories for Finance in the 1970s* (New Haven, CT, 2010), x-xiii.

[4] On postwar prosperity see Joyce Appleby, *The Relentless Revolution: A History of Capitalism* (New York: W.W. Norton & Company, 2010), 300-07; Michael Lind, *Land of Promise: An Economic History of the United States* (New York: HarperCollins, 2012), 329-62; Robert M. Collins, *More: The Politics of Economic Growth in Postwar America* (New York: Oxford University Press, 2000), 40-67.

economy and consumer confidence, the Vietnam War and Watergate damaged trust in government and other major institutions, and the powerful environmental movement protested the impact of economic activity on air, water, plants, and animals. Keynesianism, the philosophy that government had a role in managing supply and demand in the macro-economy, seemed unable to explain a situation in which inflation and unemployment were both running out of control.[5] Individuals, institutions, businesses, and agencies that could previously have avoided worries about confronting thorny economic choices now found themselves having to make quite tough decisions indeed. Seeing American businesses under government regulation as adrift and unable to function, some politicians pursued deregulatory policies to open up competition in business, restore profitability to the private sector, and allow the profit motive to figure out the most productive way to use natural resources. Some businesses would fail without the comfort of regulation, but the cleverest and most efficient, policymakers hoped, would survive.[6] The confluence of all these events helped create a general trust in the processes of unhindered market exchange, and a corollary widespread distrust of government institutions, in the United States.

The Tennessee Valley Authority, one of the most recognizable symbols of New Deal liberalism, was one entity that went through unexpected tumult during these uncertain economic times. But its status as something between a public agency and a private company made coping with the new macroeconomic climate of the late 1970s

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[5] See Appleby, *The Relentless Revolution*, 325-30; Lind, *Land of Promise*, 363-91; Collins, *More*, 68-165.
[6] On the deregulatory political climate of the 1970s see David H.K. Vietor, *Contrived Competition: Regulation and Deregulation in America* (Cambridge: Harvard University Press, 1994); Kenneth Button and Dennis Swann, eds., *The Age of Regulatory Reform* (Oxford: Clarendon Press, 1989); Thomas Borstelmann, *The 1970s: A New Global History from Civil Rights to Economic Inequality* (Princeton: Princeton University Press, 2012), 148-49.

especially difficult. Reflecting the idea that there were limits to traditional economic growth, President Jimmy Carter came up with an idea to use the TVA's existing capabilities to forge what he saw as a more sustainable and environmentally-friendly path forward, applying the agency's resources to the task of conducting cutting-edge research and development to secure America's energy future. Carter believed the bleak projections of imminent resource depletion and questioned the sustainability of perpetual economic growth, and he sought to use the TVA to develop new technologies and incentives for energy conservation alongside alternative energy sources. Yet changing the agency in the manner he imagined involved reconfiguring organizational structures and spending lots of TVA money. The expanded scope of the TVA's activities alarmed Tennessee's representatives in Congress, who were concerned first and foremost about the impact that these supposed diversions would have on electricity rates for Valley consumers. They castigated these measures and the Carter-appointed TVA chairman who pursued them.

TVA's ventures into alternative technology development, its adherence to environmental regulations, and its position within the general economic stagnation of the 1970s led to a larger crisis of TVA's essential mission and identity in the Valley. TVA's perceived failures further amplified the growing anti-government sentiment pervading American culture and politics. Some policymakers sought to change TVA to adjust it to the increasingly deregulatory, anti-statist political climate of the era. Two initiatives meant to make TVA more like contemporary private-sector businesses, a drastic increase in pay for top executives and a restructuring of the agency's Board of Directors, received consideration in Congress. Opponents were suspicious of these measures, still seeing TVA as a New Deal agency that should be motivated by public service instead of market

imperatives. Conflicts over TVA's central nature played out in the press over the course of the early 1980s, bringing insecurity and low morale to the agency's employees. TVA's only partial adaptation to the age of the market created vast problems for the agency, decreased Southeasterners' affinity for the Authority, and contributed to the general perception of government as a bloated, inefficient entity, incapable of the swift delivery of needed services that the deregulated private sector increasingly seemed to be able to do so well.

The New Chairman

In the years from the end of World War II to the beginning of the 1960s, TVA – in the estimation of one analyst – had cemented itself as "the" power company for the Tennessee Valley. Over the two decades following World War II, the TVA had established and burnished its reputation and position as an essential institution in everyday Valley life. Its hydroelectricity, forest replenishment, and soil rejuvenation programs helped lift much of the rural South out of poverty and brought the region nascent industry. TVA had a virtual monopoly on electricity in the Valley, as private companies were prohibited from using TVA's transmission lines to sell electricity. Because TVA did not have to earn a profit – it merely needed to fund the cost of its operations – it sold electricity at very affordable rates to Valley consumers and producers alike. By the 1960s, the right-to-work provisions of the 1947 Taft-Hartley Act were impelling American manufacturing to move southward. TVA officials were eager to hasten the region's industrial development by providing power for new industrial plants

and the workers who labored at them.[7] To supplement TVA's existing hydroelectric plants, the agency added steam plants powered by coal, making a large portion of electricity production independent of the region's rivers. To meet the burgeoning projections of future demand, TVA soon expanded into building nuclear power plants as well. Analysts at TVA and other public utilities believed that private utilities in other parts of the country were underestimating future energy demand and unacceptably restricting expansion of generation facilities. TVA therefore took an aggressive stance to expand the production of cheap and abundant energy.[8]

Jimmy Carter's domestic policy staff looked disapprovingly upon the TVA's increasing reliance on fossil fuels and nuclear power in the 1960s and 1970s. Coming to power in the late 1970s, they sought to use the agency's vast scope and resources to instead promote the new president's energy agenda. They were optimistic that the Authority's impressive infrastructure could be used to encourage the president's goals of energy conservation and alternative technology development. But some changes in leadership at the agency would be necessary.

A 1977 vacancy on the agency's board of directors, the body responsible for setting TVA's overall direction and mission, seemed to provide the perfect opportunity for Carter. White House science adviser Frank Press wrote Carter confidant Hamilton

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[7] On the decline of the industrial Midwest and Northeast and the rise of the Sunbelt Southeast and Southwest see especially Bruce J. Schulman, *From Cotton Belt to Sunbelt: Federal Policy, Economic Development, and the Transformation of the South, 1938-1980* (New York: Oxford University Press, 1991); Elizabeth Tandy Shermer, *Sunbelt Capitalism: Phoenix and the Transformation of American Politics* (Philadelphia: University of Pennsylvania Press, 2013); Matthew Lassiter, *Silent Majority: Suburban Politics in the Sunbelt South* (Princeton: Princeton University Press, 2006); Jefferson Cowie, *Capital Moves: RCA's Seventy-Year Quest for Cheap Labor* (New York: The New Press, 2001); Thomas J. Sugrue, *The Origins of the Urban Crisis: Race and Inequality in Postwar Detroit* (Princeton: Princeton University Press, 1996).

[8] Erwin C. Hargrove, *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990* (Princeton: Princeton University Press, 1994), 118-28.

Jordan a preliminary memorandum to explain that the new president should seek a dynamic, creative candidate that would not let TVA continue with business as usual. Someone with "a reputation as an independent thinker" who would not feel constrained by TVA's current obsession with its power program was sorely needed. With "renewed vigorous leadership," Press proclaimed, the TVA could "once again" become an "exciting demonstrational arm of the Federal government." With the proper guidance, TVA could serve as a shining example of successful conservation practices, of the use of a "mixed energy base" of renewable and nonrenewable resources, and of the productive development of cutting-edge alternative energy technologies. For Press, a "new view of regional development," one that could serve as an example to other areas of the country, was possible with the right selection.[9]

President Carter agreed, and began searching for a suitable candidate. J. Wiley Bowers, the Executive Director of the Tennessee Public Power Association (a consortium of 160 municipal electric power systems and rural electric cooperatives), wrote the president urging the appointment of S. David Freeman to the position. TVA needed a director who could play an "active role" in this new era of "innovation and change," Bowers said. Freeman, who had a strong background at TVA and in the energy sector more broadly, was perfect for the role. Freeman began his career as a TVA engineer and lawyer and later worked as an assistant to the TVA's chief counsel. But he had also been intimately involved in other high-profile energy matters. In the early 1970s, Freeman

[9] Memorandum for Hamilton Jordan from Frank Press, "Preliminary Comments on the Tennessee Valley Authority Board of Directors," 23 February 1977, box 23, folder 8, Domestic Policy Staff – Kitty Schirmer and Erica Ward's Subject Files (hereafter DPSSW), Jimmy Carter Presidential Library. In this memorandum, Press recommended theee candidates for the TVA vacancy, none of whom eventually got the job; however, the one that Press thoiught would be most appropriate to take over the charimanship was Alfred Kahn, who later became Carter's special adviser on inflation. On the TVA's diverse experimental initiatives in its early years see Sarah T. Phillips, *This Land, This Nation: Conservation, Rural America, and the New Deal* (New York: Cambridge University Press, 2007), 80-98.

directed the Ford Foundation's Energy Policy Project, and after Carter took office in 1977, Freeman worked in the White House itself assisting James Schlesinger's secret effort to conceptualize and organize the federal Department of Energy.[10]

But Freeman had a much longer personal association with TVA than simply employment in his adult life. His parents were immigrants from Lithuania who had settled in Tennessee because Freeman's father was an umbrella maker and had apparently been told that it rained a lot there. Freeman himself still vividly remembered the floods that had regularly ravaged Chattanooga before TVA's coming, and how the utility company brought stability to the region's landscape with its flood control work. The importance of rural electrification and its role in regional development were also ingrained in both Freeman's reminiscences and the region's collective memory. Freeman often liked to point out that most people in the area still referred to their electricity bill as a "light bill," TVA so decisively having taken responsibility for illuminating the region's previously-dark nights.[11] Freeman clearly held a deep and optimistic view of the TVA's potential for positive economic and social development in the Valley.

Freeman's closeness to Carter, along with his affinity for environmental causes, also drew much criticism. During Freeman's confirmation hearings, Senator John Stennis (D-MS) put a hold on his confirmation due to a suspicion that Freeman was "too much of an environmentalist." In his testimony, Freeman depicted the TVA as a tool whose wide-ranging scope and influence could popularize and amplify Carter's hopes for increased

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[10] *Chicago Tribune*, 28 May 1978; Memorandum for Jordan from Press, "Preliminary Comments on the Tennessee Valley Authority Board of Directors," 23 February 1977, box 23, folder 8, DPSSW; J. Wiley Bowers to the President, 8 June 1977, box 286, folder TVA [Tennessee Valley Authority] [O/A 6239], Domestic Policy Staff – Stuart Eizenstat's Subject Files, Jimmy Carter Presidential Library. The 1974 publication resulting from Freeman's time at the Ford Foundation outlined alternatives to big power growth and became an energy primer for candidate Carter.

[11] *Chicago Tribune*, 28 May 1978.

energy efficiency and decreased personal consumption. In Freeman's view, TVA could serve as an example to spur a nationwide embrace of Carter's energy ethos, which frightened Southeasterners and their congressional representatives, who demanded that TVA focus squarely on its regional mission to provide cheap electricity. Freeman's national focus was drastically different from those in Congress who saw TVA's role as a servant of Valley residents.[12]

The Freeman Ideology

Those who feared Freeman's plans should he be confirmed need not have guessed at his intentions. He had recently explained his views at great length in a 1974 analysis of American energy politics and policy. He began his book by referring to October 17, 1973, the beginning of the oil embargo, as "energy Pearl Harbor day," like Carter equating the magnitude of the energy challenge with war itself. Guaranteeing energy security and maintaining a clean environment, he said, would not come about easily or cheaply. Instead, instituting better health and safety protections for workers, creating better safeguards to protect against oil spills, and placing power lines safely underground instead of letting them crisscross above suburban neighborhoods would unavoidably cause the cost of energy to rise. Freeman was also wary of nuclear power. He saw its prevalence not as a product of its natural advantages but instead a consequence of "government's single-minded devotion to atomic energy research over the years," which had "stacked the deck for the future in favor of the one energy source it has so lavishly

[12] Hargrove, *Prisoners of Myth*, 197. Freeman drew criticism from nuclear power advocates for skeptically questioning whether the next big step in increasing generating capacity should be nuclear power. Those in the oil sector were also wary of his conservationist impulses; one executive claimed that "Freeman's basic philosophy" was "to drive the growth rate to zero as quickly as possible." See "Energy: A Conservationist Shakes the TVA," *Time*, 29 May 1978.

supported." It was now time, Freeman said, for government to put the same amount of enthusiasm and effort into developing cleaner alternative technologies as it had devoted to nuclear power in years past.[13]

Freeman also denied that unleashing the private sector would be sufficient to solve the nation's energy challenges. Maintaining a secure energy future, Freeman argued, could not be achieved by simply allowing private companies to harvest and distribute raw fossil fuel materials from the ground, as had worked in decades past. Coal and oil were damaging the quality of the air and water, and besides, they were running out. The energy of the future would instead emerge from incredibly complicated, "tedious and expensive" engineering experiments that might not pay off for years, projects that private companies seeking a quick and reliable profit would be loath to invest in. Also not sufficient were the "piecemeal" government policies that had emerged over years and decades as problems were tackled "one at a time." The problem with this approach, he said, was that "the government has instigated different regulatory and promotional programs for coal, atomic energy, natural gas, oil, and shale oil without recognizing that federal boosting of one source might discourage industry from investing in the others." Instead, "a massive federally financed research and development effort," one that could afford to sink money into unsuccessful initiatives for years until a productive solution could be discovered, was necessary.[14]

As Carter was determined to see Freeman ascend to the chairmanship, Senator Stennis eventually released the hold on the nomination and he was confirmed to the position. But questions about his priorities continued. Soon after his swearing-in,

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[13] S. David Freeman, *Energy: The New Era* (New York: Walker and Company, 1974), 3, 148, 172.
[14] Ibid, 12-13, 159, 228.

Freeman spoke to the organization Save Our Cumberland Mountains, an organization opposed to strip mining. Giving this speech was indeed a curious act for someone heading the largest coal-burning entity in the Western Hemisphere. Freeman was also initially dedicated to pursuing alternative sources. On the celebration of "Sun Day" on May 3, 1978, a day designated by President Carter for solar power advocacy, the "iconoclast" chairman appeared in front of a Memphis crowd wearing a bright yellow t-shirt over a turtleneck sweater. Freeman brought applause by suggesting that expanded use of solar energy could obviate the need for at least one future nuclear plant currently planned by TVA. Later that day, Freeman posed for a photo opportunity by climbing atop the roof of a suburban Memphis home and dutifully inspecting a solar heating panel.[15]

Freeman did not realistically intend for the sprawling and decentralized TVA to undergo revolutionary change overnight, but major parts of his vision were enacted quite quickly. A mere year after assuming his chairmanship, he had taken significant steps to return the agency to its New Deal roots as a grassroots social and economic experiment rather than an entity solely focused on power production. Freeman had TVA scientists hard at work on solar research, garbage-fired steam plants, and fuel cells, clean coal-powered units that could produce electricity in small downtown installations. Freeman had moved rapidly to reorient TVA's future focus away from large, centralized coal and nuclear plants to smaller and cleaner options. "And, as in the old days," according to the *New York Times*, the authority had teams examining soil erosion in north Georgia, aiding small farmers in Alabama, and helping commercial fishing in the 650-mile chain of lakes in the Tennessee Valley. "Now, we're beginning to come back to what [David] Lilienthal

[15] *Chicago Tribune*, 28 May 1978. On Save Our Cumberland Mountains see Chad Montrie, *To Save the Land and People: A History of Opposition to Surface Coal Mining in Appalachia* (Chapel Hill: University of North Carolina Press, 2003), 182-91.

called the seamless web," proclaimed Freeman proudly, in which power generation was envisioned as merely one aspect of TVA's overall mission to cultivate the economic and social development of the Valley.[16]

Not long after assuming his new chairmanship, though, Freeman also faced sporadic citizen questions about what this new emphasis would mean for TVA's overall identity. Kentucky attorney Granville Clark, for example, was "disturbed" by Freeman's "apparent great interest in areas other than the generation of electrical power." The era of sociological government programs meant for "planning people's lives" seemed to be over, the attorney claimed, and besides, it seemed like a tall order for any government agency to make itself an expert in more than any one given field. "Thus, it would appear reasonable that TVA would be better to devote its time to matters concerning the generation of electricity" and leave other decisions about daily life to people and their communities. Referring to the recent snail darter controversy that had embroiled TVA in controversy, he reiterated that the TVA should "leave the decision as to whether the people in the Tellico Project want to live in an industrial area or a rural area up to them."[17]

Freeman's reply attempted to assuage Clark's concerns. "These programs [fertilizers, forests, water quality, wildlife management] are, of course, financed by appropriated money and do not inhibit our ability to operate the power system in a frugal manner." In fact, given that ninety percent of TVA employees were involved in some

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[16] *New York Times*, 29 May 1979.

[17] J. Granville Clark to David Freeman, 8 October 1977, box 3, folder CI-CL, Richard M. Freeman Correspondence Files (hereafter RF), Tennessee Valley Authority Records, RG142, National Archives at Atlanta. In the TVA records, David Freeman's correspondence from 1977-1978 is filed together with Richard Freeman's correspondence from 1978-1986. David Freeman's correspondence from 1979-1984 is filed separately.

way with power generation, one could even argue that TVA had "permitted the power program to take up too much of its time" at the expense of other priorities.[18] Freeman may have thought that he had successfully parried Clark's concern, but his agenda soon drew closer scrutiny. The persistent inquiry into Freeman's plans came not just from Valley residents, but also from members of Congress.

Environmentalism and TVA

Freeman's ambitious initiatives were indeed not without consequences. For a variety of reasons, they resulted in higher electricity rates for Valley residents. The TVA Act of 1933 required that TVA pay for all electricity generation with current income. As costs of generating electricity went up, electricity rates for consumers had to rise as well. Increases in TVA utility rates had virtually always elicited ire from ratepayers in the Valley, as citizens had become accustomed to low electric rates as a regional birthright. The increases that occurred during Freeman's tenure were unprecedented and indeed shocking to the Valley population. In the view of one political scientist, public opinion in the Valley simply "was not prepared" for the high rate increases during Freeman's chairmanship. Edward Hopper, a Huntsville, Alabama attorney, wrote Freeman in late 1978 to warn that the "mood of the region's people is angry, hostile, and resolute. They do not intend to tolerate a continued utility bill that is higher than house payments."[19] Hopper spoke for a much wider swath of public opinion. As TVA sponsored public

[18] S. David Freeman to J. Granville Clark, 13 November 1977, ibid.
[19] Edward L. Hopper to Richard M. Freeman, 19 October 1978, box 5, folder HL-HZ, RF.

meetings across the Valley concerning possible rate increases in the late 1970s, the response from citizens was reportedly "uniformly one of anger."[20]

There were several significant reasons for rising rates in the late 1970s and the 1980s. One, given that the TVA was still burning massive amounts of coal, was the cost of cooperating with environmental and safety regulations, including the black lung and strip mining regulations discussed in chapter 3. TVA seemed to accept these regulations, claiming that their purpose in accounting for the full costs of harvesting and burning coal was "fair and equitable."[21] But the demands for TVA to take adequate steps to ensure environmental safeguards in the course of its operations indeed created burdens for the agency's quest for low rates, a requirement that caused upper-level management to complain. TVA General Manager William F. Willis remarked in 1981 that "our responsibilities, whether they conflict or not, have the force of legal obligation." Willis noted that TVA was simultaneously required to generate power at the lowest possible cost and to "be vigilant in protecting the environment and conserving resources." "Unfortunately," Willis lamented, "the [TVA] Act doesn't tell us how to do any one of those things without hampering our ability to do the others."[22] Though Freeman's TVA may have been trying to internalize the full costs of using certain types of energy, this was not an argument that would be received favorably by irate ratepayer-taxpayers.

A 1977 incident is a case in point. A coalition of ten health and environmental groups, along with the states of Alabama and Kentucky, sued TVA in June for continuing to violate Environmental Protection Agency (EPA) clean air standards. Ten of TVA's

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[20] See Hargrove, *Prisoners of Myth*, 227.
[21] "TVA's Coal Procurement Program," box 37, folder 14, Chili Dean Papers (hereafter CD), Special Collections, University of Tennessee, 8-12.
[22] Speech by William F. Willis to the Tennessee Municipal League, 10 July 1981, box 17, folder 71, CD.

twelve giant coal-fired power plants in Tennessee, Kentucky, and Alabama were emitting toxic sulfur dioxide in excess of environmental regulations; together the twelve were emitting over two million tons of sulfur dioxide a year, more than ten percent of all sulfur oxide emissions from all American utility plants. Two months later, the EPA itself joined the suit. The TVA's violations were clear, and the TVA and EPA agreed to a quarter-billion dollar fine for the Authority. But this punishment paled in comparison to TVA's cost going forward. In order to prevent future pollution, the entire settlement also required that TVA spend $1 billion in capital investment and $550 million for the installation of sulfur dioxide scrubbers, as well as purchase more expensive low-sulfur coal for burning. Scrubbers are metal boxes into whose bottoms coal-fired gases are fed. As the gases rise, they are enveloped with a solution of magnesium oxide or limestone, whose acid eats up sulfur and precipitates it out in solid form rather than releasing it into the air.[23]

Periodicals noticed problems with the settlement. As the pro-business *Wall Street Journal* noted, forcing scrubbers on utilities as a broad policy prescription might even have an "effect opposite" to that intended, since if utilities knew that they must install scrubbers regardless of the type of coal burned, they might opt for cheaper high-sulfur coal instead of more expensive low-sulfur coal. Since the high-sulfur variety subject to scrubbing might in fact emit *more* carbon dioxide than the low-sulfur alternative, even without the scrubber, the scrubbing requirement was likely a counter-productive policy.[24]

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[23] *Knoxville Journal*, 19 April 1979; *Nashville Tennessean*, 13 March 1979; *Knoxville News-Sentinel*, 27 July 1978.

[24] *Chicago Tribune*, 9 May 1977; *Wall Street Journal*, 28 July 1977. In the early 1970s, the soft coal industry had taken an active role in the shaping of the Clean Air Act, pushing for federal standards requiring emission-control technology in order to avoid municipal regulations that would require switching from high- to low-sulfur coal, a regulation they saw as especially onerous. See Richard N.L. Andrews, *Managing the Environment, Managing Ourselves: A History of American Environmental Policy*, Second

Though the TVA was required by the settlement to purchase low-sulfur coal, private utilities elsewhere faced no such burden, and they were free to use the high-sulfur variety if they wished.

In 1978, one TVA board member – Tellico Dam mastermind Aubrey Wagner – resigned rather than vote in favor of the settlement. Another member retired with a "public blast" at the settlement and warned against interference by the EPA in TVA's activities. The TVA had, since the New Deal, been given the charge of providing the cheapest possible electricity to Valley residents, a mission its caretakers took very seriously. These particular TVA members resented the perceived meddling by the relatively new EPA in the affairs of the decades-old Authority and reacted accordingly. The environmentalist sympathizer David Freeman was the only one of the three board members that was amenable to the agreement. The agreement was indeed not signed until a year later, when Richard Freeman (no relation to David) joined the board and voted in favor of the settlement.[25]

The settlement had a stark impact on TVA's operations. In 1981, TVA predicted that the costs associated with the cleanup would increase residential consumers' rates by nearly ten percent over the course of the next two years. Discussing the settlement, David Freeman claimed that TVA had "no choice" but to comply with regulatory stipulations. "We have 10 coal-fired steam plants that are in violation of the law." For Freeman, nothing was more "distasteful" than being required to raise electric rates. But, he said,

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Edition (New Haven: Yale University Press, 2006; orig. 1999), 209. Pushing legislative policies to require polluters to install improved technology ("technology forcing") was a common environmentalist tactic; see Samuel P. Hays, *Beauty, Health, and Permanence: Environmental Politics in the United States, 1955-1985* (New York: Cambridge University Press, 1987), 251.

[25] *Knoxville Journal*, 19 April 1979; *Nashville Tennessean*, 13 March 1979; *Knoxville News-Sentinel*, 27 July 1978; Hargrove, *Prisoners of Myth*, 180.

"TVA is being hit by inflation like everyone else. We don't make a profit, but we must pay our bills."[26]

This incident indicated the difficulty of TVA's precarious balancing act of cooperating with environmental requirements while complying with congressional demands for low utility rates for Valley customers. A shocked Senator Baker, certainly fearing the political fallout of increased rates, wrote to Environment and Public Works chairman Jennings Randolph (D-WV) to ask for Senate hearings on the matter "because of the extraordinary importance of the decision." Although Baker couched his request for a national hearing in the fact that the use – and potential mandate – of scrubbers was a topic relevant to other power plants across the country, he also expressed immense concern about the possibility of an increased financial burden on TVA ratepayers, his constituents and voters.[27]

The rising cost of coal was one reason for rising electric rates, but the cost of paying for TVA's new diverse set of programs also affected consumers' pocketbooks. Freeman defended TVA's expenditures before the Senate Committee on Environment and Public Works in March 1981. Though congressional appropriations funded recreation, forestry, and flood control programs, research money for alternative energy sources came mainly from power revenues, and members of Congress were thus concerned both that TVA might be wasting taxpayer money on some programs and unjustly increasing electric rates for Valley residents to pay for others. In his Senate testimony, Freeman attempted to justify the agency's costs by highlighting the fact that many programs incubated by TVA were being appropriated for broader national use upon

[26] *Nashville Tennessean*, 13 March 1979.
[27] Unidentified newspaper clipping, box 1, folder 1, CD; Howard H. Baker to Jennings Randolph, 25 July 1978, box 12, folder 3, HBJ.

their maturation. Alternative energy research programs that "benefit and are funded by the nation's taxpayers as well as Valley ratepayers," for example, had promising implications for nationwide use. Likewise, recent initiatives in agricultural and fertilizer development that were funded by TVA had already been put into productive use across the nation. "It is not just a utility and that fact should be kept in mind in considering its performance." Tax revenues, he said, must continue flowing to TVA.[28]

Freeman also declared that the TVA board should not and would not resist modest increases in rates to compensate for increased expenditures on alternative energy, as a drop-off in revenue would damage TVA's ability to finance investments that would pay off handsomely in the longer term. He also believed that curtailing industrial capacity in the present would damage the region's long-term development prospects. If TVA reduced its construction in anticipation of slower economic growth in the future, then those very predictions of reduced economic activity would become a self-fulfilling prophecy. In Freeman's view, a short-term political overreaction to rising power rates would thus only lead to long-term damage. Representatives in Congress, thinking in short timeframes of political campaigns and elections, were reluctant to accept such an argument.[29] For them, the TVA needed to get to focusing on power generation by the most efficient way possible, and it needed to do so quickly.[30] But even if the TVA immediately abandoned

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[28] Testimony of S. David Freeman before Senate Committee on Environment and Public Works, 16 March 1981, box 36, folder 10, CD.

[29] Ibid. TVA's General Manager agreed with Freeman's analysis, writing to one complaining ratepayer that "to shut down plants and lay off employees now would cost us the new generating capacity needed for future regional growth." See W.F. Willis to Robert S. Dabney III, 12 May 1980, box 3, folder DA-DD, RF.

[30] Ironically, though Freeman faced criticism from members of Congress who thought TVA was not cutting back construction *enough* in order to adapt to reduced growth, some Valley residents blasted TVA for cutting back construction *too much* and causing mass layoffs of Valley workers. See, for example, S. David Freeman to John S. Fandrich, 3 February 1978, box 4, folder FA-FD, RF.

these ancillary programs, which it did not, there were other reasons for rising rates that caused even greater problems for the agency's public image.

TVA and Energy Conservation

The 1979 selection of Illinois railway lawyer Richard M. Freeman to the TVA board of directors, which solved the impasse over the 1978 EPA settlement, also brought David Freeman a like-minded individual to help him pursue his audacious goals. Richard, like David, had a deep TVA background, having served as an attorney for the agency from 1948 to 1957. And in terms of their vision for TVA, the two Freemans were often hard to tell apart. Richard spoke of wanting "to see TVA come closer to achieving its goal of the integrated development of the Tennessee Valley Region," putting together the region's resources "into a pattern of quality growth." He also talked about how TVA's conservation initiatives could be "a potential demonstration of how a part of the nation's energy problem can be addressed."[31] Such statements were virtually indistinguishable from how David Freeman had already been speaking about the TVA for many months. Together the two made energy conservation a keystone of the agency's activities. However, in addition to the rising cost of coal and the expenditures related to TVA's alternative technology programs, there was also conflict between TVA's extant plans and the conservationist priorities of the Freemans and the incumbent Carter administration.

TVA was initially proud to spread the word about its conservation programs. A boosterish document that declared TVA "Ready for the 80's" spoke in glowing terms about the TVA's recent conservation initiatives in the Valley. For example, TVA's home insulation program, which provided free home energy surveys to residential customers

[31] Interview with Richard M. Freeman, 9 January 1979, box 39, folder 185 Freeman, Richard M., RF.

and no-interest loans for weatherization, had been a rousing success, resulting in over a quarter million home surveys and over a hundred thousand loans.[32] In a talk to the annual meeting of the Tennessee Valley Public Power Association, David Freeman stressed the importance of these home insulation loans, solar hot-water heaters, and other conservation measures. He had also called for the Valley to pursue a one-million-kilowatt reduction of commercial and industrial load over the next ten years by figuring out more efficient ways to carry out industrial processes.[33]

But TVA's turn to conservation in the Valley also had consequences for the agency's existing economic structure. Drawing on the Carter administration's conservation emphasis, David Freeman's TVA encouraged Valley ratepayers to take steps to decrease their individual energy use. But then, as a direct consequence, TVA raised electricity rates on consumers, claiming that a higher price per kilowatt-hour was necessary since less aggregate electricity was being sold. TVA had current construction projects to fund and could not afford the drop-off in revenues. Critical periodicals indignantly pointed out this contradiction and castigated the TVA for it. Though a column in the *Chattanooga Times* blasted the "mismanagement, poor judgment, bad public relations, [and] general incompetence and inefficiency" of the TVA, this was also a clear example of the conflict between the long-term conservationist agenda and the immediate demands of the existing systems of energy distribution.[34]

Furthermore, given the economic upheaval of the mid-1970s, the TVA's earlier projections of future energy use turned out to be flawed, which exacerbated the structural planning problems caused by conservation. In the 1960s and the early 1970s, the federal

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[32] "TVA: Ready for the 80's," 16 December 1980, box 15, folder 012 Executive Branch, ibid.
[33] Hargrove, *Prisoners of Myth*, 203.
[34] *Chattanooga Times*, 16 October 1981.

government had projected "huge demand" in the future for electric power in the Tennessee Valley, an area to which many Midwesterners and Northeasterners were flocking to seek employment as industrial production in the United States moved southward. In response to this growing population and economic affluence, TVA had built a network of seven nuclear power plants and seventeen reactors, the cost of which reached over thirty billion dollars. But the government's projection turned out to be far too high, as the stagflation of the early 1970s stalled the American economy for years and invalidated these optimistic projections. The agency was forced to halt further nuclear construction. In May 1979, for example, the agency announced an indefinite halt in the construction of four nuclear reactors already underway at three sites in Tennessee and Mississippi. As a Mississippi newspaper complained, "America's taxpayers are covering the cost of the [government's] mistake and TVA's 2.8 million customers are footing that agency's bill." Already costing millions of dollars, it was reported that "it may reach the billions in the next 10 years."[35]

Incorrect past predictions were a problem, and conservation incentives further exacerbated the problem by making current predictions of future energy use nearly impossible too. A 1979 GAO report criticized TVA for making inaccurate estimates of future demand and recommended canceling planned future projects. Though the GAO blamed TVA incompetence, the diverse conservation measures promoted by Carter's Department of Energy and the TVA itself, combined with general economic stagnation, certainly also had something to do with the agency's troubles in estimating future demand figures. Nonetheless, an experienced TVA worker complained that TVA's current path of constructing generating capacity in excess of anticipated system

[35] *Tupelo* (MS) *Journal*, 17 October 1981.

requirements while spending "substantial" amounts of money to promote conservation "appears to put the ratepayer in a no-win situation." TVA had already seen current construction plans become more complicated because of conservationism and economic slowdown, and now it had to alter projections far into the future as well. At the beginning of May 1979, Freeman's TVA delayed for six months a decision to accept bids, which it already had in hand, for prospective new nuclear power plants.[36]

Though Carter's conservationist ethos may have provided the basis of a more sustainable energy policy in some respects, there were clear complications as it collided with preexisting systems of energy production. As aggregate energy demand in the Valley slowed after the implementation of Carter's conservation programs, the economics of electricity necessitated that TVA raise rates to compensate for its existing construction programs. This was a course of action that was politically unacceptable, especially to the Valley's representatives in the US Congress. Projecting future energy use became a serious challenge with economic stagnation and conservationist measures each starkly affecting consumer demand. The two Freemans soon found themselves under assault by angry members of the legislative branch, and subsequently were forced to fire off apologetic and defensive responses to alarmed questions about TVA's uneasy financial position.[37]

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[36] *New York Times*, 29 May 1979; Hargrove, *Prisoners of Myth*, 224. For TVA worker comments, see the folder labeled "Cost Cutting Surveys" in box 35, folder 18, CD.

[37] For more on utilities building plants to meet demand that failed to materialize in light of conservationist initiatives, see *Wall Street Journal*, 2 September 1980. For the Freemans' shaky position vis-à-vis members of Congress, see, for example, their reply to Jamie L. Whitten, the chair of the House Appropriations Committee, 21 March 1979, in box 19, folder 101 General Program of TVA 1977-1980, RF. In response to Whitten's insinuation that TVA "has lost a sense of cost consciousness," they cited a "thorough study of its construction activities by the highly respected Theodore Barry & Associates." "TVA is well on its way toward implementing almost all of the recommendations of that report." Despite these insistences, TVA's cost and expenditure problems continued long afterward, as did criticism from Congress.

Staffing the Agency

David Freeman's tenure as chairman witnessed another complication for the Authority, one that had to do with the staffing necessities that would accompany these new programs and research projects. With its organizational structure becoming more and more complicated over the past decades, TVA began a review of its management practices in 1978 and created what it thought would be an effective corporate planning process that could prioritize and direct the organization's activities. The TVA thought that doing so could help handle the challenge of pursuing various and perhaps divergent objectives like coal-fired power, nuclear construction, fertilizer research, conservation awareness, and environmental protection, and successfully coordinate and manage the diverse sets of employees necessary to develop and implement these programs.[38]

The Authority quickly found that its preparations had been quite inadequate. In 1980, with the Authority in bad financial shape, TVA Board of Directors member Bob Clement solicited suggestions for cutting costs at the agency, which revealed a long list of complaints from veteran workers. Most of these new administrative staff members, workers complained, had taken minimal steps to acquaint themselves with and fit into the agency's deep-rooted culture, and had instead only sought their own personal advancement. The problem was compounded by the fact that this new staff had been hired at the managerial level and, although incredibly unfamiliar with the day-to-day operations of an electrical utility, now had supervisory authority over workers with years of experience.[39]

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[38] Hargrove, *Prisoners of Myth*, 238. For the top officials replaced during this reorganization see Aelred J. Gray and David A. Johnson, *The TVA Regional Planning and Development Program: The Transformation of an Institution and Its Mission* (Burlington, VT: Ashgate Publishing Company, 2005), 97-98.
[39] See contents of the folder labeled "Cost Cutting Surveys" in box 35, folder 18, CD.

One veteran worker, for example, pointed to a management structure that had become top-heavy with inexperienced people that, as this worker saw it, was hampering production. Another felt that "everyone in management is trying to build a kingdom." In this worker's eyes, the fact that "the more personnel they have, the higher they are placed up the ladder" was a distraction, as managers were more concerned with collecting subordinates than improving work operation. One stated simply that TVA should "Stop hiring people with little or no utility experience" for high level jobs. Others pointed to "too many non-technical people releasing conflicting statements" confusing the public, as well as all the assistants everywhere generating piles of work just answering mail and phone calls among their superiors.[40] TVA had long pointed to its decentralized structure as a benefit that would allow it to pursue many activities at once. But it now seemed that the decentralization was causing more problems than it was solving.

Veteran workers indeed complained overwhelmingly to Clement about a stunning lack of morale, and uniformly called for changes that would allow workers to recapture a sense of initiative, productivity, and community in the workplace. In March 1981, Minnesota economist and former TVA official Vernon Ruttan came to the unfortunate conclusion that, in the absence of market exchange, TVA was weakened in its ability to discern which of its services to communities, firms, and individuals were most needed and wanted.[41] TVA was spending money on a diverse set of alternative energy sources that seemed to have no apparent immediate market for sale, the research and development costs of which were increasing the electric rates paid by Valley residents. It was

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[40] Ibid. On the top-heavy management structure that emerged in the early 1980s see Gray and Johnson, *The TVA Regional Planning and Development Program*, 98-101.

[41] Hargrove, *Prisoners of Myth*, 216. Ruttan's conclusion came in his introduction to the "Summer Study" report, a group of papers published after eleven academics and policy analysts came together in June 1979 to examine possible TVA regional development missions. See ibid, 210-17.

undertaking intense forestry and flood control operations, the concrete benefits of which it could neither measure nor understand. TVA employees then saw their organization pilloried in both the press and in public opinion for wasting resources on quixotic initiatives. Again, TVA's attempts to develop nationally-relevant programs and to align its mission with the incumbent president's priorities interfered with its regional goal of efficient electricity production.

TVA Chairman David Freeman's inability to reconcile the TVA's two manifestations of national technological incubator on one hand and regional utility on the other, along with the pressure put on members of Congress to rein in Freeman's TVA, ultimately led to his demotion. In April 1981, Senator Howard Baker asked the new president Ronald Reagan to remove David Freeman from the chairmanship, while allowing him to remain a member of the board of directors. The senator asked that Charles "Chili" Dean, the manager of the Knoxville Utility Board, replace Freeman as chair. Baker preferred Dean because he was acutely familiar with the problems of the Valley and had fewer grand ideas about national concerns than Freeman. As Erwin Hargrove has noted, "The decision to appoint [Dean] suggests that Baker saw TVA as an institution of the valley and nothing more."[42] Carter's bold experiment with the TVA had, for the most part, ended, done in by the contradiction between the vision for its influential future and the realities of the political status quo.[43]

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[42] Ibid, 238.

[43] Howard Baker took over as Senate Majority Leader in 1981 and, according to one periodical, "seemed determined to put his personal stamp on TVA." Baker tried to expand the board of directors to seven members, which failed, but he succeeded in getting Reagan to appoint Dean to the chairmanship. See *Wall Street Journal*, 7 July 1981. Although Dean had different priorities than David Freeman and was more conservative in his vision for the agency, the fact that the two like-minded Freemans outnumbered Dean on the three-member board meant that the Freemans still exerted significant influence on some issues. See ibid, 242-43.

Expanding the Board

With all of these apparent administrative and managerial problems, clamors arose inside Congress to change the composition of the agency's Board of Directors itself, namely adding more members. The two Freemans in particular had been working in virtual lockstep. Some legislators began to believe that adding more members to create a more decentralized board might help address many of the agency's lingering problems. More voices on the board, proponents of the idea argued, meant that there would naturally be a broader set of ideas on the table to consider with regard to any given issue, which would undoubtedly benefit the agency. A more democratic board would naturally be a more thoughtful and imaginative one. Following this logic, a bill under consideration in the US Senate in 1979 proposed expanding the TVA board from three members to five. The bill also included a residency provision requiring that all members of the board hail from the Tennessee Valley, thus trying to ensure that the board would consider the interests of the people of the Valley first and foremost.[44]

Richard Freeman, whose employment status would be in serious jeopardy if the proposal was enacted, was vocally opposed to it. He inverted proponents' argument about the impact that more voices would have on the board's functionality. "The board of three," he said in Senate testimony, was the optimal size, big enough to "[provide] for diverse points of view when resolving policy issues," yet also small enough "to maintain the closeness and cohesiveness so essential for effective and timely decisionmaking." Instead of an asset, the existence of more viewpoints on the board would actually be a

[44] Richard M. Freeman, Testimony re: S. 970, 14 August 1979, found in box 19, folder 103(1) Board of Directors, DRFR, 6-7. Bob Clement, who had unsuccessfully run for the Democratic Party's Tennessee gubernatorial nomination in 1978, joined the board in fall 1979 and left when Dean was appointed. Like Dean, Clement consistently battled the two Freemans, especially on rate increases, and like Dean, he almost always found himself outnumbered by them. See Hargrove, *Prisoners of Myth*, 228.

detriment to the agency's well-being, as it would prevent the board from speaking with a clear, coherent voice. The hypothetical larger board, he said, would generate "a hopelessly chaotic administrative condition" at the upper levels of decision-making, with the stale, institutional bureaucracy of the entrenched executive class taking over instead. Should the five-member idea be instituted, Richard Freeman warned, the decisive leadership capabilities of the board would dissipate, creativity and imagination would be eliminated. The board would then, tragically, "lose touch with what is happening and what should happen in TVA" amidst its own internal squabbling. Though proponents of adding members argued that their idea would make the board more flexible, it was a smaller board, Freeman claimed, that was truly the more adaptable model.[45]

In the short term, Richard Freeman got his wish, as the five-member idea fizzled out in Congress. Howard Baker had introduced the idea of a seven-member board in the Senate in 1981, but the idea faded away when Baker expressed uncertainty in committee hearings.[46] But as the agency continued into the 1980s, its underlying problems did not dissipate. Some within the agency itself, especially those serving in TVA's office in the nation's capital, saw the TVA's schizophrenic identity as emerging from the fact that it was still acting like a centralized, New Deal-era government bureaucracy, even as American private sector practices had been evolving, adapting, and decentralizing over the past two decades. In order to compete and function in an era of receding government control over the economy and increasing antipathy toward government in the court of

[45] Ibid. Freeman also argued against the residency requirement, turning to familiar rhetoric to speak of the TVA not merely as a regional institution but as "a national demonstration and an asset of the entire Nation" that needed a variety of geographical interests directing it.

[46] See *Memphis Commercial Appeal*, 11 October 1997. Howard Baker had previously introduced the idea of a seven-member board in the Senate in 1981, but the idea faded away when Baker expressed uncertainty in committee hearings. According to the paper's retrospective on past restructuring attempts, Baker "first favored, then cautioned against, then favored again a board expansion," making his real position hard to discern.

public opinion, these observers said, the TVA needed to emulate recent productive developments in American business itself. In particular, the board - whether it had three, four, five, or whatever number of members - consisted of full-time employees with lengthy terms of service. This arrangement, critics said, rendered the TVA ill-equipped to deal with rapid changes in the macroeconomic, macro-political climate. More flexibility in TVA's decision-making processes, these critics claimed, was essential in the new information-driven economy of the 1980s.[47]

The Tennessee Valley Industrial Committee, a loosely-organized group of large industries in the Valley that relied on huge amounts of TVA electricity and had seen utility bills skyrocket in the past few years, was a prominent voice in favor of some sort of change. It conceded that a small, hands-on board had been appropriate in TVA's early days, as in the early 1930s the board had faced the daunting task of "getting a fledgling New Deal agency off the ground. It was a board up to its elbows in operations." But, decades later, the situation was markedly different. A very involved board "is not, however, the best way to manage an organization with $16 billion in assets…and the largest power system in the United States." The board should figure out some way, the committee said, to back away from daily operations and put itself at "almost arm's length" from management to assure an "objective, diverse, expert outside point of view." The committee warned that if TVA did not figure out some better, more cost-effective way of providing power, it might soon lead to employee layoffs in the Valley. "[B]ecause

[47] In the 1970s, technological developments like the computer chip made business practices quicker, more decentralized, and more efficient, and made rapid, nearly instantaneous exchanges of knowledge and information into a key aspect of daily life; see L. David Hoeveler, *The Postmodernist Turn: American Thought and Culture in the 1970s* (New York: Twayne Publishers, 1996). On the increasingly decentralized and deregulatory political and social climate of the 1980s see especially Daniel T. Rodgers, *Age of Fracture* (Cambridge: Harvard University Press, 2011).

of their high cost of operation due principally due to electric rates," the companies comprising the committee would be "first to be cut back in production" if the economy fell into recession.[48]

TVA's office in the nation's capital, which was more closely attuned to some of the broader trends playing out in corporate and government practices, was also a strong proponent of reforming the agency's board composition. It echoed some of the same ideas that the Valley's private industries had recently outlined. The Washington office sent its analysis and recommendations in November 1983 to John Stewart, head of TVA's Office of Policy, Planning and Budget. TVA lagged badly behind current practices in American business, it said. Businesses had in past decades relied on "inside" members with extensive in-company experience to sit on the board of directors and make top-level decisions. But more recently, reflecting the new economic realities of more rapid, more diverse, and more voluminous flows of information and knowledge as a component of daily economic life, companies had increasingly begun to bring in "outside" directors with expertise in law, government, and different fields of business. For example, an executive from a financial services company would serve on the board of a retail company, and vice versa. In addition to tapping different fields of expertise, this practice also allowed more open-mindedness and attention to broader economic context than might be possessed by a group of directors who had spent their entire careers with one company. While corporate boards had once been dominated by "inside" directors, the Washington office pointed out, the situation by 1983 was one in which the

[48] Presentation and background information, Tennessee Valley Industrial Committee, Meeting with Valley Congressional Delegation, 3 March 1982, 5, 7, box 11, folder Tennessee Valley Industrial Committee, RF. The committee self-identified as "a major contributor to the economy of the Tennessee Valley region" that employed approximately 45,000 Valley residents. See Tennessee Valley Industrial Committee information, ibid.

average corporate board had nine "outside" directors for every four "inside" directors. This "more open and more democratic" form of corporate governance, the Washington office claimed, had made companies much more flexible and adaptable in a constantly-changing world, and it was an example that TVA should seek to imitate.[49]

Concurrent with the memorandum from the Washington office was Representative Ronnie Flippo's (D-AL) introduction of a bill in the House that would triple the size of the TVA board, turning it into a nine-member entity. Seven of the nine would be part-time "citizen directors" from the Tennessee Valley, with another part-time director who could be from anywhere in the nation. In order to smooth the communication process between long-term planning and everyday operations, the ninth member of the board would be TVA's General Manager, its top administrative figure. Except for the General Manager, the board members would receive $5000 per year for their part-time service, and would be paid an additional $250 per day for attendance at official TVA meetings. Flippo claimed in support of his bill that these changes would both "open the TVA policy-making process to fresh insights" and "make the TVA more representative of, and more accountable to, the people of the region."[50] Whether or not these claims were necessarily true – all directors would still be appointed by the President of the United States – it was surely true that this structure would result in a different decision-making process than a three-member board on which two like-minded members could dominate.

But this last fact – the centrality of presidential appointments – was key. Given David Freeman's perceived closeness to President Carter's environmentalist and

[49] Memorandum from TVA Washington Office to John Stewart, 4 November 1983, box 19, folder 103(1) Board of Directors, RF.
[50] Press Release, Office of Ronnie G. Flippo, 4 November 1983, ibid.

conservationist agenda, one of the main arguments in favor of the restructuring was that it would make the board less politically-charged by making it more democratic. But if the selection process remained the same, a drastic shift in the board's ideological orientation was certainly less likely than proponents claimed. For the same reason, there was no particular reason that a changed board composition would make the utility run more efficiently, especially if the structure of top day-to-day management did not change. And even though David Freeman had happily complied with EPA regulations, they still had the force of law regardless of whether the TVA chairman liked them or not. Thus a chairman who unhappily complied with them under the law would have almost certainly presided over the same rate increases that Freeman had.[51] For these reasons, this restructuring plan also ultimately stalled in Congress, and the three-member model remained. Though Representative Flippo was still talking nearly three years later of the "tragedy, the culmination of years of blunders, of operating without any kind of accountability," three full-time directors would continue to guide the agency nonetheless.[52]

Executive Pay

The most controversial public issue related to staff had to do with TVA's non-board top executives. In the early 1980s, TVA was having immense trouble retaining expert administrators in light of their relatively low pay. By 1981, for example, TVA had lost over a quarter of its power executives, and just under a quarter of the executives in the Office of Engineering Design and Construction, to private utility companies offering

[51] See *Memphis Commercial Appeal*, 11 October 1997. The idea of a board restructuring re-emerged in 1997, spurring the Memphis paper to review past attempts.
[52] *New York Times*, 11 June 1986.

significantly higher salaries. Under the TVA Act of 1933 passed, of course, in the very different historical context of the Great Depression and New Deal - TVA employees were prohibited from drawing a salary in excess of that received by members of the Board, which in 1980 stood at $55,387 for the Chairman and $52,750 for the two other members. Americans had broadly seen the Great Depression as having been caused by the greed and irresponsibility of private interests, with self-centeredness very nearly destroying the nation's economy. The TVA's employees, as instruments of the federal government's New Deal recovery efforts, had been viewed properly as in service to the public interest, not their own bank accounts.[53]

Nearly fifty years later, this requirement was drastically impeding the Authority's ability to keep outstanding senior leadership. With the Great Depression now merely a distant historical memory, the nation's cultural antipathy to self-interest and private profit had largely dissipated. Expert TVA executives were often eager to apply their talents elsewhere in pursuit of higher incomes if the opportunity arose. TVA itself, along with members of Congress who noticed the management exodus and worried about its effects on the agency's operations, jumped into action. In order to compete with private utilities for top talent, the TVA decided that it had to start thinking less like a government organization and more like a private company. Based on the recommendations of the Senate's Committee on Environment and Public Works, the TVA Board instructed its

[53] Memorandum from Jo Cooper to Senator Baker, 5 October 1981, box 12, folder 5, HBJ; *Knoxville News-Sentinel*, 11 October 1981. On the TVA's original public-interest ideology, see David A. Colignon, *Power Plays: Critical Events in the Institutionalization of the Tennessee Valley Authority* (Albany: State University of New York Press, 1997), 88-94.

General Counsel to explore methods of strengthening the compensation programs for power system employees.[54]

The resulting proposal attempted to get around the salary restriction in the TVA Act and suggested that, as an alternative to direct salary increases, TVA should instead enter into "retention agreements" with approximately seventy-five of its top executives. At an approximate cost of a mere $1 million per year, the bonus program would be contingent upon its recipients agreeing to stay at TVA for a 3-year period, and the retention amount could reach as high as $36,800 per individual. For an employee making $52,750 annually, this represented an astronomical bonus of about 70 percent. TVA also proposed that the money for the bonuses come from power revenues and not from federally appropriated funds, which it hoped would mitigate accusations that taxpayer money was going to pay exorbitant executive bonuses. As TVA pointed out, its power operating budget for fiscal year 1982 was $3.8 billion, and the prospective $1 million increase would, according to the General Accounting Office (GAO), thus add about 0.026 percent – in other words, virtually nothing – to rates. The agency strongly asserted that it was cutting costs wherever possible to keep rates low, and that it viewed the bonuses as an investment that would yield greater savings in the long run, as it would stop top executives from departing the agency. All three directors – Dean and the two Freemans – emphatically voiced their support.[55]

TVA expressed other reasons for the necessity of the plan to Senator Baker. Citing high turnover in key positions and an inability to recruit needed talent, TVA

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[54] Memorandum from Jo Cooper to Senator Baker, 5 October 1981, box 12, folder 5, HBJ; *Knoxville News-Sentinel*, 11 October 1981.

[55] Memorandum from Jo Cooper to Senator Baker, 5 October 1981, box 12, folder 5, HBJ; Memorandum from Jo Cooper to Senator Baker, "Senator Sasser's Response to TVA's Plan for Providing Additional Compensation to Key Power Employees," 13 October 1981, ibid; *Wall Street Journal*, 23 November 1983.

warned of the risk of nuclear danger. "Nuclear safety is as much a function of experienced managers and operators as fail-safe equipment," TVA claimed, and it would be foolish to operate TVA's network of nuclear plants without the managers essential to ensure prudent operation. Baker strongly agreed. Concluding that a nominal increase in pay was necessary to preserve the safety standards, as well as the low utility rates that he deemed so politically important, he spoke on the floor of the Senate in November to defend the plan. Baker's staff conceded privately that in a time of federal budget cutbacks the optics of the plan might prove unfavorable. But the senator himself calculated that the hard figures on a power bill would prove more important than public consternation about the bonuses.[56]

Several newspapers in the region also lined up behind the plan. One in Knoxville, for example, asked rhetorically how a bonus program could possibly be worth a million dollars a year. It then answered its own query by noting that one savvy coal buyer could save TVA a million dollars a *month*. "Or, more correctly, a dumb one could lose the agency that much," the newspaper said. "TVA has already lost what it considered its two top coal buyers to private industry." Another in Kingsport noted that, for executives of other regional utilities, a $70,000 salary was near the bottom; the chairman of Florida Power and Light Co., a smaller entity than TVA, was making over *three-and-a-half times* as much annually. The newspaper conceded that, from a public relations standpoint, the time was inopportune to be asking for more money for management. But in the total TVA

[56] TVA to Senator Baker, "Retention of TVA Power System Management: Mitigating the Salary Crisis," 30 September 1981, box 12, folder 5, HBJ; *Knoxville News-Sentinel*, 11 October 1981.

budget, the periodical proclaimed, "upgrading top salaries is a small investment toward insuring the best people continue to manage such an important and complex agency."[57]

Despite the straightforward and seemingly unimpeachable fiscal analysis, this argument nonetheless proved to be a hard sell to some, who thought that the TVA was drifting too far toward market-based thinking and should return to a public-service-based orientation focused on serving consumers, not enriching executives. Not all newspaper commentaries favored the plan; a newspaper from Bristol, Virginia (near the Tennessee border) spoke of the "monumental arrogance" of TVA's management, which was ignoring its "captive customers" with impunity.[58] One individual who agreed with the Bristol paper's point of view was Senator Jim Sasser (D-TN), who had defeated Bill Brock's 1976 re-election bid.

James Sasser and the GAO

Sasser, like Howard Baker, saw the TVA as primarily a servant of Valley residents, but the two differed drastically in their respective approaches to the agency. Baker was, of course, not shy in criticizing David Freeman when Freeman took actions that Baker thought might raise Valley electric rates, but in general, the senator was a fierce defender of TVA in Congress and in the press. He worked constantly throughout his career to shield TVA's autonomy and to advocate for its interests with whoever sat in the White House and in the chambers of Congress at any given moment. Sasser, though, used a different tactic, mobilizing various instruments of government oversight to keep constant pressure on TVA's administrators and to weaken TVA's power and autonomy,

[57] *Knoxville Journal*, 8 October 1981; *Kingsport* (TN) *Times*, 10 September 1981.
[58] *Bristol* (VA) *Herald Courier*, 13 October 1981.

as Sasser viewed TVA as a self-interested entity focused first and foremost on increasing its own power at the expense of Valley residents. Where Baker saw the interests of TVA and Valley citizens as generally convergent, Sasser viewed the agency as an insulated, greedy bureaucracy that required significant attention and often chastisement, lest it veer off course from its citizen-focused mission.[59]

An incident in 1982 demonstrated Sasser's antagonistic orientation toward the TVA. The senator commissioned the General Accounting Office to complete three reports on TVA's activities and financial sustainability. Taken together, the reports were highly critical of the agency, arguing that TVA was misstating the disjuncture between planned future construction costs and likely future revenues. Sasser had specifically asked that TVA not be given a chance to comment on the reports before their public release, a request that the GAO honored when it released them in March.[60] The reports embarrassed the TVA badly, and the agency's General Counsel tasked his staff with investigating whether the GAO had a legal obligation to allow an agency under review to comment on reports before their public release. In response, his staff reported that there was no clear requirement either way. There was no statutory requirement that GAO comply with these types of directives from members of Congress, but neither was there a requirement that the GAO allow agency comment before release. The decision to allow comment instead lay entirely at the discretion of the GAO, so if a member of Congress requested that reports be released without agency comment, legally the GAO could decide whether or not to honor the request. There was, however, as one staff attorney

[59] See Hargrove, *Prisoners of Myth*, 235-36.
[60] Memorandum from Wayne R. Gildroy to Herbert S. Sanger, Jr., "General Accounting Office Requirements Regarding Agency Review of GAO Reports prior to Their Release," 8 July 1982, box 15, folder 011E General Accounting Office, RF.

noticed, a significant difference between legal obligation and practice. "As a practical political matter…GAO's self-perceived role of being a servant of Congress appears to have led it to follow a policy of complying with such directives."[61]

The subtext of the memorandum was clear. Sasser embarrassed the TVA with the public release of the reports, and there was little that the TVA could do that could stop the senator from taking similar action in the future. TVA booster Howard Baker almost certainly would not have done anything close to that which Sasser felt was acceptable. Sasser, unlike Baker, was clearly unafraid of creating hostile relationships with top officials at the agency. Baker's method of addressing TVA problems was to hold Senate hearings and to warn the agency in the press to keep electricity rates low, but rarely did he take actions that seemed calculated to deliberately antagonize the agency and threaten its reputation. Where Baker generally treated the agency as an ally of Valley ratepayers and issued chiding criticism if TVA seemed to be making mistakes, Sasser treated the agency as if it simply could not be trusted.

Sasser's skepticism for and frequent antagonism toward the agency extended to the compensation plan. Almost always seeing the TVA as primarily self-interested, he was enraged by the bonus proposal, viewing it as yet another manifestation of the agency's underhanded tendency to enrich itself at the expense of Valley residents. Skeptical of the idea that a seventy percent salary increase could legally be considered a "bonus," the senator expressed strong public opposition to the compensation plan, and he launched a multi-pronged attack. Attempting to leverage the GAO against TVA again, Sasser asked the office to provide an opinion on the plan's legality under the TVA Act. He also drafted a concurrent resolution expressing congressional disapproval of the

[61] Ibid.

bonuses, and then introduced an amendment to TVA's $124 million appropriations bill that would deny the bonuses to managers whose salaries included tax funds. Though TVA was required to pay for power generation solely out of current revenues, federal money helped subsidize some of TVA's more experimental research programs.[62]

Responding to Sasser's actions, the *Chattanooga Times* argued that those who were "going to (loudly) denounce" the plan for retaining top-level managers then had the responsibility to offer an alternative plan. "They don't and they won't." Sasser's loud criticism also brought him into conflict with Senator Baker, who was reportedly "increasingly annoyed" by Sasser's use of the TVA as a "political football" against Robin Beard, Sasser's opponent for senatorial re-election in 1982. In Baker's view, though a government agency partially funded by taxpayer dollars, TVA should have existed outside the bounds of the rough-and-tumble of electoral politics in order to ensure efficient operation uninhibited by partisan distractions and accusations. Sasser refused to be convinced by such exhortations, continued his vocal campaign, which only ended in November 1983 when the GAO analysis commissioned by Sasser ruled that the bonus plan was an illegal circumvention of the TVA Act. TVA would continue to be constrained, for better or for worse, by the salary limits on top executives.[63]

TVA's Split Identity

In 1980, with the TVA in the midst of the cost-cutting measures that had drawn such incensed replies from long-time employees, Richard Freeman received an indignant

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[62] *Memphis Commercial Appeal*, 16 October 1981; *Chattanooga Times*, 24 October 1981.
[63] *Chattanooga Times*, 24 October 1981; Memorandum from Cooper to Baker, 13 October 1981, box 12, folder 5, HBJ; Excerpt from *Congressional Record – Senate*, 5 November 1981 (S. 12990), found in ibid; *Wall Street Journal*, 23 November 1983. Sasser won re-election in 1982 and again in 1988.

letter from Valley ratepayer Howard Carver. Carver deplored the idea that, even with "a cost of power that threatens the lives of some" – presumably low-income ratepayers who could not pay summer cooling bills – the "in" thing at the agency was to hire former employees as high-paid consultants who found a "gold mine" giving advice to their former employer. With more than a hint of sarcasm, Carver advised that if TVA insisted on throwing money at untold numbers of former employees as a favor to them, then the agency should probably think about hiring at least one real consultant "to come in and tell you how to reduce costs" for real. "I appreciate the magnitude of your job," Carver told Freeman, "but really 'hard-nosed' business direction begins at the top of any organization." Freeman, as a TVA director, needed to step up his efforts to make the organization more efficient, Carver claimed.[64]

Carver wrote Richard Freeman again about a year and a half later, just as the agency was in the midst of the bonuses controversy. There was no reason to consider higher pay for high-echelon staff, he said. In fact, it seemed surprising that they still had jobs at all. TVA's record, Carver complained, was still "far below the acme of perfection," and in most instances operated with "just plain ineptness and unconcern." He referred to Freeman, again with sarcasm, as a "hard-nosed" businessman who, given his experience, must have been acutely aware of the "billions spent" to correct the errors made by the TVA board and by its top cadre of "irreplaceable managers." "Do you honestly think," Carver opined, "that TVA could survive in the private world of business with the 'leadership' we have now." To complaints that TVA was losing too many employees, Carver claimed that low pay – the TVA's board preferred explanation – was

[64] Howard M. Carver to Richard Freeman, 29 April 1980, box 3, folder CA-CF, RF.

not primarily to blame. "Nowhere yet, has any mention been made…of disillusionment" with the agency and its leadership.[65]

The tragedy of TVA's problems, Carver said, was that it left Valley ratepayers adrift with few alternative options. If TVA was hypothetically a private business, then the mechanisms of the market would take care of its inefficiency and waste by forcing it to either adapt or go out of business. But since TVA had quasi-government status, it was not forced to compete in the same manner as other firms were. Stagnation and ineptitude within its top leadership was allowed to thrive. A problem of comparable scope, though, was that TVA was not truly a pure government agency. The TVA Act and its self-financing power program insulated it from many of the political whims that other agencies and bureaus had to endure on a daily basis. Ratepayers feeling that they had been wronged could petition Congress for redress. But since Congress did not possess thorough oversight powers over the agency, doing so was "sort of grasping at any straw in the wind."[66]

The sheltered and protected state that TVA found itself in was unacceptable to Carver. He outlined two potential identities for TVA to embrace, claiming that the agency had to pick either one or the other. If TVA was a private business, then it needed to petition the Public Service Commission for rate increases. as private utilities were compelled to do, rather than declare them unilaterally. He also commanded TVA to "remove the government-financed pension benefits you enjoy," and find a management class "qualified to operate…in a profit-oriented society" instead of employing "political appointees who hold their positions through favoritism." If, on the other hand, the TVA

[65] Howard M. Carver to Richard Freeman, 27 October 1981, ibid.
[66] Ibid.

was an arm of the federal government, "then some system must be devised to provide checks and balances to protect the people" from agency abuses. Such a system must be more sound than the current inadequate methods of congressional oversight. "Mr. Freeman," Carver implored, "this is not just my opinion: as you know better, this view is shared by people in all walks of life."[67]

Carver may have been only one single ratepayer in the vast Tennessee Valley, but his words indeed reflected the widespread discontent with the TVA that emerged in the late 1970s and the 1980s. In Richard Freeman's reply to Carver's second letter, the TVA board member conceded that "Historically, the Board and TVA managers have made both good and bad decisions." But, with all things considered, "I think their performance is far above the average. It is our objective to see," Freeman informed Carver, "that the balance is more plus than minus."[68] Freeman's technocratic reassurances were little comfort to Valley ratepayers who had spent years reading about TVA's many troubles in the newspapers on a daily basis. Despite numerous attempts at restructuring, securing the loyalties of top executives, and shoring up TVA's lasting financial viability, every attempt to fix TVA's problems seemed to generate more discontent.

Part of the problem had to do with the Carter administration's continued insularity. Reflected in David Freeman's appointment to the TVA board, Carter believed that the TVA's massive scope could amplify his expansive energy agenda, promoting both environmental protection and energy conservation. But these priorities conflicted with the TVA's nearly-sacred mission in the Valley to provide the lowest-cost electricity to Valley residents. The cost of environmental protection increased the cost of coal,

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[67] Ibid.
[68] Richard M. Freeman to Howard M. Carver, 29 October 1981, ibid.

which necessitated increased utility rates for Valley citizens. Compounding the problem, successful energy conservation measures decreased aggregate demand for power in the Valley, which meant that TVA had to increase rates to make up the budget shortfall.

But Carver's irritated letters to Richard Freeman pointed to a larger challenge faced by TVA. In the 1970s, in the phrasing of one historian, the US economy moved from one based on manufacturing physical things to one rooted in more abstract banking transactions (or "from factories to finance").[69] This shift had many broad implications, but the most important were the rise of an economy based on knowledge instead of material goods along with the decentralization of power from traditional institutions, which moved flows of information to economic centrality.[70] Transactions were quicker, indeed almost instantaneous, and companies were forced to meet nearly immediate changes on an everyday basis based on new information. Instant adaptability in this new era was of paramount importance; those firms and institutions were most successful that could change and adapt to meet constantly-shifting realities. This new reality allowed companies to make massive profits quite quickly, but also exposed them to the possibility of instant ruin if they navigated poorly.

In this era, TVA was stuck between integration into this new economic reality on one hand and adherence to its traditional, New Deal-era, public-focused identity on the other. TVA was expected to simultaneously compete for customer loyalties, rather than take them as assumed based on TVA's longstanding Valley mission, but also to answer promptly to congressional prodding and criticism. As Carver pointed out, TVA was neither wholly a government organization nor an institution of the private sector. While

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[69] See Stein, *Pivotal Decade*.
[70] On the emergence of "market" in economics discourse see Rodgers, *Age of Fracture*, 41-76. On the decentralization of ideas of power see 77-110.

this liminal state held some advantages for the agency, it also damaged the TVA's ability to function coherently in this transitional era. Buffeted by multiple constituencies, the public-private tension was a contradiction that TVA was unable to resolve.

In this new market-oriented world, TVA tried to grant its top executives more competitive pay to stop them from moving on to more lucrative opportunities, but the nearly fifty-year-old TVA Act precluded this possibility. Members of Congress who sought to make TVA more like modern corporations also tried to turn the TVA board into a larger panel with part-time commitments instead of full-time. But they were defeated by advocates of the traditional TVA structure. The battles that played over seemingly obscure issues like executive pay and board composition in fact revealed larger divisions about the role of TVA going forward. Some observers, like Senator Howard Baker, who supported higher executive pay, and Representative Ronnie Flippo, who wanted a larger and more diverse board, wanted TVA to become more like a private company in some aspects. They believed TVA should be more directly answerable to ratepayers, but also with employees better compensated for their work and more flexible in making decisions. Others, like Senator Jim Sasser, who staunchly opposed executive pay increases, saw TVA as a government bureaucracy that required constant oversight if it was to adhere to its public service mission, and these observers sought to exert persistent and significant congressional control over TVA's perceived excesses. The board of directors itself split these issues, favoring higher pay for executives but opposing the board restructuring.

TVA was caught in between these different visions of its future as either a private company or a public organization, and – given the failure of both the executive pay increase and the board reconfiguration – advocates of retaining the agency's New Deal

roots generally won the battle for TVA's identity by preserving the status quo. Though losing major battles, these opponents brought a fresh skepticism of government to their oversight of the agency. Senator Sasser in particular, while wanting the TVA to adhere to its New Deal configuration, did not trust the agency to monitor itself nearly to the extent that Franklin Roosevelt had trusted the original board. The public nature of these battles brought turmoil to TVA and its mission in the Tennessee Valley. Whether the defeated reforms would truly have made TVA more efficient and effective is impossible to say. But the intense controversy about them demonstrates the limits of and implications of the anti-government rhetoric of the early 1980s. In the abstract, many Americans turned against the idea of government itself, seeing it as Reagan did as an inefficient, unresponsive entity. Yet, more concretely, many Valley ratepayers feared that making TVA more like a private business might actually make it *less* responsive to public concerns. The contradictions embedded within these competing viewpoints, and congressional attempts to impose various manifestations of them upon the TVA, generated much trouble for the Authority's mission in the Tennessee Valley. And with TVA's pullback from its energy conservation mission, another of Carter's energy policies amounted to little of consequence.

TVA's identity problems continued for years after the fights of the late 1970s and early 1980s. Its public reputation slowly recovered over the course of the 1980s, especially as the agency worked through the skewed economics of its nuclear program.[71] But every attempt in the 1980s and 1990s to make TVA more like a private company was again met by opposition that sought to maintain the agency as a servant of Valley residents, keeping the agency's underlying mission in a state of perpetual confusion. It

[71] See Hargrove, *Prisoners of Myth*, 276-79.

was not until 2004, after many more years of trying to adapt TVA to the market era, that Senators Lamar Alexander and Bill Frist finally succeeded in inserting a restructuring provision into an omnibus spending bill, which converted the board to a nine-member, part-time model.[72] Most of the part-time directors since that date have already established lucrative careers in business or law, finally resolving the executive pay issue. More sweeping calls to privatize the TVA entirely – calls casting the agency as an outdated relic of the New Deal years – have persisted to little effect, with Tennessee legislators of both parties fiercely resisting.[73]

[72] *Memphis Commercial Appeal*, 31 December 2004.
[73] Most recently, in 2013 Barack Obama floated the idea of privatizing TVA , but drew quick condemnation from Tennessee Republicans.

Conclusion

In early May of 1982, Ronald Reagan stood beside a giant globe called the Sunsphere to officially open the World's Fair in Knoxville, Tennessee, an event which doubled as an international energy exposition. He used the opportunity to reinforce his anti-regulation and anti-government political ideology. The president's remarks, characteristically, emphasized market solutions to energy problems. "In the past, we tried to manage a shortage by interfering with the market process. The results were gas lines, bottlenecks, and bureaucracy…Instead of managing scarcity, we'll help ensure continued supplies from a strategic stockpile, alleviating shortages while permitting the private market to work." "The ultimate solution to our energy problems," the president continued, would be "the decontrol of all [of] our energy sources."[1]

Along with the President and the Secretary of Energy, former president Carter and former vice president Walter Mondale created a visible presence at the Fair, but Reagan's ethos dominated the Fair itself. One newspaper spoke of the "warm" reception with which Reagan's words extolling private enterprise were met in the "heavily Republican" region of East Tennessee, with Carter and Mondale forced to be content with a mere touristic visit.[2] But in addition to highlighting local political trends, the contrasting image of the two leaders was also a fitting metaphor for the preceding few years of American energy politics. Though Carter had been heavily involved in promoting the Fair while serving as president, and while Carter had initiated some of the policies, such as oil decontrol, for which Reagan now claimed credit, it was Reagan who earned accolades

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[1] *Public Papers of the Presidents of the United States: Ronald Reagan*: *1982*, Book 1 (Washington: Government Printing Office, 1983), 544; *Los Angeles Times*, 2 May 1982.
[2] *New York Times*, 2 May 1982.

and national press attention at the Fair. Carter's initial agenda of conservation and sacrifice had been eclipsed by an approach that emphasized the ability of the private sector to address energy challenges, which would ostensibly create a new era of abundance.

Such a scene would have been inconceivable just a few years earlier. The 1973 oil crisis had seemed to validate the idea that systems of energy supply were far from secure, a theme that Jimmy Carter echoed and amplified upon becoming president. Carter passed into law a comprehensive energy plan – a task which his two predecessors failed to achieve – that encouraged Americans to use less energy in their daily lives. Initial public opinion expressed favor for Carter's attempts, as Americans were loath to repeat the experience of 1973 and trusted in Carter's leadership. For a time, it appeared that government would successfully address energy problems, as it had already done for the economic collapse of the 1930s, the fight against Fascism in the 1940s, and various civil rights issues of the 1950s and 1960s.

But the late 1970s were a time of dynamic change in American thinking about energy issues. Events in that time period especially seemed to discredit the idea that government had a constructive role to play in energy issues. Assuming office in 1977, Carter had admonished the nation about the need to reconsider its energy use, saying that Americans had to curtail wasteful habits in order to allow time for more sustainable resources and technologies to be discovered and developed. He implemented a number of government programs meant to encourage Americans to use less energy in their daily lives. Yet the Iranian Revolution and resulting oil price spike in 1979 seemed to prove Carter wrong, as the government reorganization creating an Energy Department failed to

prevent energy crises from reoccurring. Stopgap measures like encouraging greater domestic coal production fell apart when Carter and his staff proved unable to align the diverse and conflicting interests embedded within the extant political economy. Though Carter scrambled to increase domestic production of energy by proposing ideas like the Synthetic Fuels Corporation and Energy Mobilization Board, the window for convincing the nation that better days were in sight had closed.

These energy crises helped make conservative ideas intelligible and palatable to the American electorate. In the late 1970s, a number of pro-capitalist writings – Jude Wanniski's *The Way the World Works*, Irving Kristol's *Two Cheers for Capitalism*, and Arthur Laffer's musings on the benefits of cutting taxes, for example – made the case that the unleashing the efficiency of the private sector and freeing it from government intervention was the best way to solve economic challenges and improve quality of life.[3] With government trying and failing to solve the energy problem, the crises of 1973 and 1979 made these intellectual ideas about the advantages of capitalism viscerally understandable to American consumers. Consumers who again sat in long lines at gasoline stations concluded that Carter's energy agenda had failed. Promises of future abundance through the power of market processes seemed a more reliable alternative.

Also important was the fact that the second oil crisis of 1979 affected the fate of diverse public energy projects. After 1973, the need to foster new domestic sources of energy seemed self-evident, and the government, better able to absorb costs and take bigger risks than private companies, seemed primed to lead the way. Resources and effort were poured into the task of completing existing government projects, like the Tellico

[3] See Patrick Alitt, *The Conservatives: Ideas and Personalities throughout American History* (New Haven: Yale University Press, 2009), 228-31.

Dam, the Dickey Dam and the Clinch River breeder reactor. Yet the return of gas lines after the Iranian Revolution slowed consumer demand and eventually obviated the need for these projects. Congressional proponents of these projects had successfully been making the argument that new sources of energy were needed to make US energy supply secure, but the subsequent decline of energy demand due to consumer fear – and the accompanying collapse of global oil prices in the early 1980s – made these claims much less powerful. Carter's conservationist initiatives caused the need for energy to contract further over the course of the late 1970s, making these projects seem even less necessary. Furthermore, budgets rising far over initial projections contributed to the perception that government itself was wasteful and inefficient.

The new era of a free-market, anti-government approach to the issue spelled the end of some these public projects, including Dickey and Clinch River. Though the Tellico Dam survived this age of anti-government politics, the ESA review committee established by Carter refused to grant an exemption for the snail darter on the grounds that the dam was wasteful and over budget – not for the sake of the snail darter itself – and it was only through a legislative sleight-of-hand that the project was allowed to continue to completion. Furthermore, with respect to the Tennessee Valley Authority itself, the agency's top leaders became frustrated and confused about what exactly its mission and identity should be, weakening the agency's reputation and effectiveness. Government energy projects, alongside government programs to encourage conservation, both gave way to a new era characterized by a deregulated, market-oriented approach. The era of the market extended to labor politics too, with deregulated railroads speeding

the rise of non-union coal and weakening the longstanding United Mine Workers of America union.

Along with the collapse of local projects, the political power of environmentalism itself suffered in the course of the 1970s. Common narratives tend to pinpoint the Reagan inauguration as the point when the potency of environmentalism began to decline. Samuel Hays's landmark work on environmental politics, for example, states that Reagan "set out to undo the environmental work of the previous work of the preceding two decades of Republican and Democratic leadership."[4] But Reagan was not quite the "anti-environmental revolutionary" of Hays's depiction; if anything, he amplified rhetoric about the perceived overreach of environmentalism already circulating in public discourse in the 1970s.

Environmentalism has thrived in the United States when economic opportunity and comfort are at a relatively high level, as citizens are most willing to give up economic benefits to preserve natural resources when all other needs are satisfactorily met. Environmentalism indeed achieved many successes in the early 1970s, as Americans exhorted the need to protect shared resources and living spaces. But the shock of the 1973 oil crisis impacted environmentalism's political power by bringing economic concerns back to the forefront of public policy issues, a trend that continued for several years afterward. Specific laws that had just recently been passed, like the Endangered Species Act, saw their power scaled back. And general political support for environmentalism did not necessarily lead to concrete political successes, as in the case of the Clinch River reactor, which lingered in Congress until fiscal conservatives concerned about rising costs finally killed it. Indeed, another major target for environmentalists in the 1970s, the

[4] Hays, *Beauty, Health, and Permanence*, 491.

234-mile Tennessee-Tombigbee Waterway winding through eastern Mississippi and western Alabama, was completed despite the combined opposition of environmentalists and fiscal conservatives.[5]

In an electoral landslide, Ronald Reagan himself came into office ignoring and sometimes mocking environmentalist concerns. Though Reagan provoked his own backlash with controversial Cabinet appointments, environmentalism never again achieved the heights it had reached with the inaugural Earth Day in 1970. Environmentalism remained a powerful special interest, but it was never without its detractors and skeptics. And although Americans broadly continued to profess reverence for the environment, the seriousness of this commitment was less clear. A 2003 scholarly analysis of public opinion found that, although the vast majority (83 percent) of Americans agreed with the "broadest goals of the environmental movement," they also ranked environmentalism's comparative importance behind an array of other issues, including crime, homelessness, and health care.[6]

Ultimately, this dissertation argues that energy is a historical concept rooted in specific times and specific places, and that the history of energy has therefore intersected with a number of other economic, political, and intellectual histories. Many of Jimmy Carter's energy policies stalled or failed because of these intersections. Attempts to increase domestic production of coal were affected by labor unrest as well as conflicts between railroad operators and carriers. Desires to reduce funding to outdated nuclear technologies, like the Clinch River breeder, and redirect it to more promising alternatives

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[5] The story of the Tennessee-Tombigbee Waterway can be found in Jeffrey K. Stine, *Mixing the Waters: Environment, Politics, and the Building of the Tennessee-Tombigbee Waterway* (Akron: University of Akron Press, 1993).

[6] Deborah Lynn Guber, *The Grassroots of a Green Revolution: Polling America on the Environment* (Cambridge: The MIT Press, 2003), 3.

failed, as legislators were determined to keep money flowing to support local engineering and construction jobs near intended construction sites. And Carter's desires to use the TVA's existing resources to promote conservation and alternative technologies ran squarely into the demands of Valley residents that their subsidized electricity be preserved without interruption.

The price of oil has risen and fallen several times since the Iranian Revolution, including a spike in 2007 and 2008 that rivaled that of 1979. Every moment of crisis has brought renewed warnings about the need to release the nation from energy dependence, yet no comprehensive solution has been achieved or even seems to be in sight. One of the reasons for this constant tension is that conflicts between energy and environmental priorities have also not dissipated, as ongoing debates about issues like the Keystone XL pipeline and fracking – injecting fluid into the ground to release natural gas from shale rocks – have recently evidenced.[7] Every period of energy uncertainty has yielded sweeping statements about the need to reduce US dependence on foreign oil and promote domestic sources of energy, but as of yet, no long-term solution has been achieved. The challenge of aligning and satisfying the diverse interest groups embedded within the political economy of energy – corporations, small producers, labor, consumers, environmentalists, and the localities where energy is produced and consumed – goes a long way to help explain why.

[7] On fracking and Keystone XL see, for example, Daniel Yergin, *The Quest: Energy, Security, and the Remaking of the Modern World* (New York: Penguin, 2012), 259-63; 329-34. For a critical view of these initiatives see, for example, Naomi Klein, *This Changes Everything: Capitalism vs. the Climate* (New York: Simon & Schuster, 2014).

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