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Policy Feedback Takes Hold

Networked Advocates Use the Public to Drive Clean Energy Leadership in Texas

To understand how advocates can win political battles against opponents, it is useful to first examine a case where policy feedback created path dependence. Texas was an unexpected early leader in clean energy, acting even before California. Renewable energy advocates from Texas—working with a network across the country—developed the idea of a renewable energy target.[1] When they had the opportunity to get this idea onto the policy agenda in the mid-1990s, when the state was restructuring its grid, the advocates were ready with their proposal. As a result, in 1999, Texas passed an ambitious set of environmental policies as part of its electricity restructuring law.

After the policy was implemented, the Texan wind industry grew. Allied with NGO advocates, this burgeoning clean energy industry lobbied for policy expansion. They were successful: in 2005, the Texas legislature expanded the renewable energy target. Per the predictions of policy feedback theory, a Republican legislator whose rural district had experienced economic benefits from wind energy sponsored the bill. In a rare move in Texas, the legislature also invested $7 billion into an infrastructure program to support clean energy. Policy feedback was working—the law was expanding, enabling a shift away from fossil fuels in the electricity sector.

This chapter describes the first decade of clean energy policy in Texas, when wind grew rapidly. Here, we can see the fog of enactment operating clearly, enabling advocates to gain a foothold. Given that Texas was an early actor, uncertainty was particularly pronounced. Although fossil fuel companies and electric utilities believed there would be costs from renewable energy laws, in 1999 these costs were not yet clear. It was hard to predict how technologies would mature or how policies would interact across jurisdictions. Yet, environmental NGOs and other renewable energy advocates could see the future more clearly than their

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opponents in 1999. As a result of foundation funding, they had strong networks that helped them understand the potential these laws held. Since the opponents had not yet mobilized against renewables, the issue was not yet polarized—both Democrats and Republicans supported the policy in its early years. The advocates also used the public as a tool to get clean energy laws on the agenda and passed. These factors allowed for an initial decade of successful policy enactment, implementation, and expansion. Eventually, opponents would learn through implementation. In the second decade, they worked to undermine clean energy policy and drive polarization. In the next chapter, I show how opponents blocked progress on solar energy. But this first decade, covered in this chapter, was a hopeful time in Texas, particularly for wind energy.

Networked Advocates Use the Public to Enact a Renewable Portfolio Standard During Electricity Restructuring

Given fossil fuels' centrality to the Texan economy, oil and gas companies have held significant power in the Longhorn State for over a century. Texas is extremely energy-rich. Since oil was discovered at Spindletop in 1901, fossil fuels have consistently made up a large portion of the Texan economy (Hinton & Olien 2002). Oil and gas extraction contributed over 10% to Texas's gross domestic product in 1963—almost as much as the entire manufacturing sector.[2] Today, the stretch of land from Houston to Galveston Bay has the highest density of petroleum refineries, petrochemical companies, and other oil and gas infrastructure in the world (Weisman 2008).

Texas's economy was built on this backbone of cheap and plentiful energy. Heavy industry consumes large amounts of fossil fuels and electricity. With abundant energy supplies, the state has done little to invest in conservation: it is well known as one of the worst states for energy efficiency.[3] Why save energy when there is so much of it and it's so cheap? Not surprisingly, the companies that own and operate all this energy infrastructure are also large and politically influential. Their aim is to maintain the status quo—irrespective of the energy system's environmental harms. In Texas, fossil fuel companies and electric utilities, with strong ties to politicians and regulators, are well placed to win in organized combat over any given policy.

Given this political and economic arrangement, electricity regulation came to Texas 50 years later than other states. Texas has long maintained its own, soverign grid—one that does not cross state boundaries—in part to avoid federal regulation. At the state level, the electricity system was largely unregulated and

without a public utility commission (PUC) for most of the twentieth century (Anderson 1981). However, in 1967, utilities began to increase their rates. These growing costs caused lawmakers to continuously raise the idea of establishing a regulator until 1975 when a law established the Public Utility Commission of Texas (PUCT) (Hopper 1976). But this arrangement did not last long.

By the mid-1990s, the rising pressure across the United States to increase competition in the electricity sector reached Texas. When Governor George W. Bush took office in 1995, he appointed Pat Wood III as chair of the PUCT. During his time, Wood worked with the legislature to signal to incumbent, monopoly electric utilities that deregulation was imminent.[4] The legislature took the first steps, passing a small-scale law that paved the way for deregulation in 1995.[5] Given that the Texas legislature only meets every other year, the PUCT had to wait another year for legislative direction.

This delay would prove fortuitous for clean energy advocates. It enabled a public opinion exercise to unfold that they would successfully use in their campaign for a clean energy law. While the commission waited for the legislature to go back into session, it resumed its de facto Integrated Resource Planning (IRP) process in 1995.[6] The plan called for a public engagement component. Around that time, one of the commissioners saw a television program with political scientist James Fishkin discussing his deliberative opinion polling method (Rabe 2004). Inspired by this idea, in 1996, the commission ran a series of deliberative polling exercises within each utility's territory, in partnership with the private utilities.[7] These events featured presentations from various interest groups, including environmental NGOs.

The results were promising for advocates seeking to push a renewable energy law in Texas. Although the expectation was that low costs would prove the most important variable for citizens' attitudes on electricity, in practice reliability and price stability came out as more important (Rabe 2004). Further, citizens overwhelmingly endorsed renewables—even if they cost more money. We might hypothesize that public opinion drove the subsequent adoption of Texas's first clean energy law (Ansolabehere & Konisky 2014). In practice, though, the story is more complicated. In the mid-1990s, advocates used public opinion as a tool in their battle to pass clean energy laws.[8] They shaped and communicated public preferences to push renewable energy onto the agenda during the deregulation debate.

Meanwhile, the utilities were being squeezed. In 1996, the commissioners put the electric utilities through a very difficult rate case, with Chairman Wood leading the process.[9] This was a negotiation tactic: the PUCT was signaling that remaining with the status quo regulatory structure would prove unfavorable for the private utilities—it would be better if they cooperated with the legislature's restructuring plans. As one person put it, "it was clear that the utilities had some

exposure under the Pat Wood regime."[10] The utilities had built new infrastructure, and the PUCT indicated that it might not qualify as useful and, therefore, would not be included in rate recovery calculations. When utilities invest in infrastructure but cannot make adequate returns through the regulatory process, they hold "stranded costs."[11] This created a bind for the utilities: whether or not they went along with deregulation, there would be downsides. Thus, the executive branch was working with the legislature to push the utilities toward cooperating.

When the legislature went back in session in 1997, several restructuring bills were introduced, most prominently the Texas Consumer Power Act (SB 684). Given the scale of the proposed changes, both advocates and opponents showed up for the fight. Key advocates for restructuring included Enron and the Texas Coalition for Competitive Electricity (TCCE).[12] A now defunct group formed in 1997, the TCCE members included large fossil fuel companies like Oxy, Altura Energy, and the Texas Oil and Gas Association. The status quo regulatory system created significant uncertainty for these companies because electricity was a large input cost for their operations. They believed a restructured system would bring lower and more stable prices.[13] At the time, newer and cheaper electricity technologies—including co-generation and combined cycle gas turbines—were becoming available. The TCCE believed that deregulation would bring these options to Texas. Given the fossil fuel industry's long-standing influence in the Lone Star State, it held significant sway in the legislature, helping to put deregulation onto the agenda and shaping its design. The TCCE eventually morphed into the Texas Association of Manufacturers (TAM) in 2005—an important group that led the attack on clean energy policy in the second half of our Texas story.

Unsurprisingly, in 1997, the main opponents of electricity restructuring were private utilities, networked through the Association of Electric Companies of Texas (AECT). Competition posed an existential threat for incumbent monopoly electric utilities.[14] They preferred to remain with the status quo regulatory system, despite the recent, difficult rate case. Unexpectedly, the Texan rural electric cooperatives also opposed the plan. They likely believed restructuring was risky even if a competitive electricity system might not directly affect them.[15] Given that these rural co-ops operated in conservative districts, they acted as veto players for many members of the state legislature. Working together, these utilities were able to block the bill,[16] and electricity deregulation failed in 1997.

Despite this failure, negotiations over deregulation continued, with participation from a wider range of interest groups. When the legislature was not in session in 1998, several legislators investigated the issue through a lieutenant governor-appointed Senate interim committee. Republican senator David Sibley from Waco was the chair. The group was very active, even visiting California and

the United Kingdom to understand their restructured systems.[17] By the end of 1998, Senator Sibley and Democratic representative Steven Wolens pulled together a group to negotiate a draft bill for the next session. Since the Democrats controlled the House and the Republicans controlled the Senate and the executive branch, a bipartisan effort was necessary. The failed deregulation bill in 1997 also demonstrated that success would require a broad group of stakeholders to agree to a bill's basic provisions. Thus, a broad negotiating table was opened.

At the next legislative session in 1999, strong opponents to the deregulation agenda remained. The private utilities, allied through their trade association, still opposed the plan. If it proceeded, however, their primary focus was on securing provisions to cover their existing investments—their "stranded costs."[18] Deregulation advocates, meanwhile, continued working through their network—the TCCE—believing restructuring would lead to lower electricity rates.

A strange assortment of other interest groups joined forces to support deregulation. In a kind of Baptist–bootlegger coalition, environmental advocates and clean energy companies joined with the fossil fuel industry to support restructuring (Vogel 1995, 2018). By the mid-1990s, there was a small clean energy industry in Texas. After Zond—one of the largest wind companies in the United States—went bankrupt, Enron bought it in 1997.[19] Hence, Enron was interested in policy that would support renewables. That company was also interested in creating a energy market the they could trade in—as it would later do in California, with disastrous consequences. Environmental groups had more complicated motives for joining the effort.[20] Although consumer advocates and environmental organizations were skeptical that deregulation would benefit their cause, some groups, particularly the Environmental Defense Fund (EDF), saw the policy fight as an opportunity to push for environmental protections.

Given the broad interest groups and issues involved, the resulting bill was quite complex. As introduced, the Texas Electric Restructuring Act of 1999 (SB 7) addressed many disparate issues. Initially, the bill did not contain environmental provisions. But as it made its way through the legislature, it broadened, becoming a "Christmas tree"—a bill that every interest group could hang its ornament upon.[21] At the end of the negotiations, three significant environmental provisions were included in the final law: a requirement for old coal plants exempt from the 1971 Texas Clean Air Act to cut air pollution emissions,[22] broad energy efficiency goals, and a renewable portfolio standard (RPS). Where did these environmental provisions come from? They came from interest group advocates. Environmental NGOs and consumer groups used deregulation as an opportunity to push environmental policies through the legislature. In particular, two environmental NGOs—EDF and Public Citizen—played a key role in getting the policy on the agenda and passed.

As is the case with many other complex bills in technical areas, the fog of enactment was operating when advocates negotiated for environmental provisions in Texas's electricity restructuring bill. There were several reasons why uncertainty and ambiguity surrounded the bill: the RPS and efficiency provisions were novel policies, it was a major reform, it was a technical area, and multiple jurisdictions would eventually influence the law's effects. At the time, a clean energy target was a new idea that had rarely been implemented—and certainly not in a market as large as Texas. The bill was also long and complex. Large bills consume interest groups' time and resources. This dynamic gives less influential interest groups an opportunity to push their own smaller reforms, while their opponents are distracted. Fossil fuel companies were focused on the bigger prize of passing a deregulation bill. And the private electric utilities that would prove important opponents to clean energy targets in many other states were distracted by stranded costs and market rules. Their limited bandwidth provided environmental and renewable energy advocates an opportunity. As one industry representative put it, "I think we would have fought harder [against the RPS] but there were other issues that distracted us at the time."[23] The policy's eventual consequences were also difficult to foresee because they would be a function of policy at multiple levels of government: from local siting decisions to federal tax incentives.

Despite this thick fog, some groups had a clearer sense of the future. Clean energy advocates, working through a network that crossed state lines, were able to see through the fog surrounding the proposal. Since the early 1990s, the Energy Foundation had been steadily supporting a group of clean energy advocates across the states.[24] This network provided advocates more information and resources.[25] Over time, the group had developed policy ideas and political strategies to get clean energy laws passed. They were focused on tacking clean energy policies onto deregulation bills. Prior to 2000, all but one state-level RPS policy was enacted as part of an electricity restructuring reform bill (Hogan 2008). In Texas, the foundation supported two key groups: EDF and Public Citizen.[26] Seizing on deregulation as a policy window, these two environmental groups worked to get renewable energy onto the agenda.

It was a fortuitous time for environmental advocates to push their ideas. Unusually in the decades since, environmental groups held influence in the Texas legislature in 1999. With the Democrats in control of the House, the Republicans controlling the Senate and executive branch realized they would need a broader coalition to overcome utilities' lobbying against electricity restructuring.[27] Given their level of influence, clean energy advocates worked both directly and indirectly to get a renewable energy target on the agenda and enacted.

One advocate worked on the inside of the negotiations, directly influencing the legislation. EDF, a pro-market environmental organization, was granted a seat at the table because of its long history in the state and its strong relationship with legislators. It advocated for an RPS as well as tougher air pollution standards for existing coal plants. Given that the Democrats controlled the House, the clean energy target was included in Representative Wolens's bill, introduced in early 1999 (HB 349). This proposal set a starting point for the negotiations: a target of 3% of the electricity system from clean energy sources by 2005, developed in consultation with EDF.[28] On the Senate side, Sibley's initial bill (SB 7) contained no RPS provision.

As the House and Senate worked to reach an agreement on electricity restructuring, a larger negotiating table was established with various interest groups. The fossil fuel companies and industrial energy consumers, working in a network through their lobby association, the TCCE, were well represented. This group was willing to support a target of 1,000 MW around 1.5% of the total electricity system, provided the timeline was stretched out to 2009.[29] EDF's proposal in the House bill would have amounted to about three times as much clean energy in half that time. The conflict over how to set a baseline also caused the negotiations to shift from a percentage target to a capacity target, showing the opponents' influence.[30] Even in these early days, industrial electricity consumers—which include oil and gas companies—were the most important opponents to renewable energy policy. Fossil fuel companies aimed to water down the clean energy policy's ambition.

Eventually, Senator Cain offered an amendment to the Senate bill on March 17, with the same 3% target as Wolens's proposal, albeit with the TCCE's preferred later deadline of 2009.[31] The final bill had a capacity target of 2,000 MW by 2009, amounting to a modest 3% of the electricity system. EDF played a significant role, helping craft the language for the RPS provisions in the final version.[32] To appeal to the Republicans' pro-market sensibilities, a renewable energy credit trading mechanism was also included that would theoretically lower costs. Indeed, some attribute the requirement for a market mechanism in the RPS to Governor Bush himself.[33]

After the negotiations concluded, the bill still had to be passed, signed, and implemented with the clean energy target intact. To ensure that this happened, another interest group advocate, Public Citizen, worked indirectly to influence legislators outside the negotiations. They used the public as a tool in their campaign to support clean energy policy. They strategically targeted specific legislators, using the media and public outreach to push for stronger renewable energy goals and environmental and consumer protections as part of the deregulation package. The advocates knew that the public would be a valuable ally in

their efforts to pass environmental provisions in the electricity restructuring bill. So they brought the public into their campaigns.

Public Citizen is an advocacy group focused on grassroots mobilization. In the mid-1990s, it began a public campaign for an RPS, intensifying its outreach as the legislature moved toward restructuring in 1998. Like EDF, Public Citizen had been working with other interest groups across state lines in the Energy Foundation network.[34] In the lead-up to SB 7, Public Citizen targeted two politicians they considered to be crucial to getting the environmental provisions enacted: Representative Wolens, the House leader on restructuring, and Democratic senator David Cain from eastern Dallas, vice chair of the Special Committee on Electric Utility Restructuring in the 1999 session. These politicians were chosen because of the committees they sat on and because Public Citizen thought they might be sympathetic to environmental concerns.[35] To influence these legislators, Public Citizen tabled at state fairs and knocked on doors to try to mobilize individuals to send letters and call these politicians' offices. They also worked to get members of the public into the hearing room. During one hearing, a young advocate with asthma gave emotional testimony on what pollution reductions would mean for him, holding up several inhalers and calling for solutions.[36] Seemingly affected by this personal narrative, Wolens voiced his desire to reduce pollution. Public Citizen also helped form the Wind Coalition, which drew together businesses and wind advocates. This group pooled resources to create job analyses and engage rural areas in their outside lobbying efforts.[37]

Throughout this period, advocates were very focused on how the public could be used to pass new clean energy laws. For example, the Texas Renewable Energy Industries Association (TREIA) described a variety of tactics to build public support for renewables in its summer 1997 newsletter, including a clean energy lobbying campaign aimed at Austin's public utility. But as a trade association, the organization was poorly designed for outside lobbying. TREIA had grown to 70 members by 1999 and included large organizations such as Enron Wind, Vestas, and BP Solar. Utilities were also members, including Texas Utilities Energy, Central and South West Corporation, and Lower Colorado River Authority.[38] Despite its growing membership, it was a niche lobbying organization compared to the fossil fuel corporations allied through the TCCE. Further, having utilities among its membership limited TREIA's ability to influence the restructuring debate, given that these monopolies were opposed to the policy altogether. Even on clean energy policy the association's membership was split on the best path forward.[39] Together, these factors limited TREIA's political influence in the restructuring debate.

Eventually, the bill passed both the House and the Senate by voice votes, with all three environmental provisions intact. The bill made its way to the Governor's

desk where it was signed in June 1999. Deregulation provided an opportunity for advocates to enact a landmark clean energy law in Texas. These interest group advocates advanced an insider–outsider lobbying strategy. Given that they had some influence with legislators—particularly Democrats who controlled the House—advocates used direct lobbying strategies to get their ideas on the agenda. Other groups supported these efforts from the outside, using indirect strategies including outside lobbying to construct a vision of Texans allied in support of clean energy.

Alternative Explanations: Executive Leadership, Public Pressure, and Bureaucrats

I have argued that interest group advocates were the driver of Texas's first clean energy law. But this is not the only perspective. As an important early clean energy law, Texas's initial RPS has been well studied. There are three other competing causal narratives in existing research about why the RPS was included in Texas's deregulation bill: leadership from Governor Bush and the executive branch (Galbraith & Price 2013), broad public support for renewables (Ansolabehere & Konisky 2009), and champions in the bureaucracy (Rabe 2004). In this section, I review each of these hypotheses and the available evidence for each claim. Overall, I find stronger evidence that interest groups were the critical factor in getting a clean energy target and other environmental policies enacted in Texas.

The first causal narrative identifies executive branch leadership as key. Governor Bush reportedly said to PUCT chair Pat Wood in 1996, "we like wind. . . . Go get smart on wind" (Galbraith & Price, 2013, 121). It is possible that Sam Wyly, a major donor with close ties to Bush, had influenced the governor. Wyly had become interested in improving air quality through renewables and may have suggested to Bush that wind was a good idea.[40] Years later, when Bush ran for president in 2000, wind energy was included in the Republican Party platform. On the campaign trail, Bush would claim credit for Texas's success in leading the nation on clean energy.

However, the story that Bush championed renewables seems implausible for several reasons. In 1997, Governor Bush and commissioners Pat Wood and Judy Walsh proposed a model restructuring bill, with eight key principles. Renewable energy was not mentioned. As the TREIA newsletter evaluating the governor's plan at that time put it, "virtually nothing that would encourage, much less require, the development of renewable energy generated electricity was in the bill."[41] This was not because an RPS was inconceivable then—TREIA included the idea in its March 21, 1997, policy statement in the midst of the deregulation

debate. Rather, renewables were not a priority for Governor Bush in 1997, a year after his remark to Wood. There is no evidence to suggest he changed his opinion in the intervening 2 years. Ultimately, the renewable energy provision would first appear in the Democratic House bill, not in any proposal from the governor.

A second story points to a central role for public opinion. Often, public opinion is viewed as a key variable driving policy change, particularly at the state level (Erikson et al. 1993; Lax & Phillips 2012; Stimson et al. 1995). In the Texas case, some have argued that public support pushed politicians to enact the RPS policy, particularly given the deliberative polling process, which favored renewables (Ansolabehere & Konisky 2014). But even there, interest groups' role in constructing public opinion is understated.

Evidence suggests that environmental groups were actively shaping public support for clean energy in the deliberative polling exercise and later in the negotiations over restructuring. Both EDF and Public Citizen were on the advisory committee that organized the deliberative public opinion exercise (Fishkin 2011). Once these polls were completed, they constructed a simple and clear narrative that strategically highlighted and downplayed results in ways that served their interests. For example, when these groups talked about the outcome of the exercise, they highlighted that most citizens were willing to pay more for renewable energy. This was one result. But the process also had results that ran counter to advocates' interests. For example, after deliberation, more citizens ranked renewable energy *lower* on their priority list. As Luskin et al. (1999, 8) wrote on the results of the process,

> There was some decrease in support for using more renewable resources, despite their potential for safeguarding environmental quality. The reason seems to have been increased realism. Before deliberation, many participants had pie-in-the-sky notions of what renewable energy could presently do, and at what cost. During the deliberations, they learned that the large scale use of renewable energy would presently be very costly and might entail some reliability problems.

These complex results were left out of advocates' stories. Instead, they emphasized the "clear" outcome that Texans wanted more clean energy.[42] Years after the deliberative polling exercises concluded, clean energy advocates linked these results to the restructuring debate, ensuring that it remained at the top of legislators' minds.

In truth, the technical nature of the restructuring debate left little room for spontaneous public engagement in the legislative process. Most citizens did not know enough about electricity to construct and voice an opinion. As such, civil

society groups needed to make legislators *believe* that the public thought energy and environmental issues were salient and high priorities. For example, in February 1997 an EDF employee said at a briefing at the capitol for legislators, "Recent polls have clearly indicated that Texans want clean renewable energy resources."[43] In another case, Public Citizen targeted two important legislators from Dallas, highlighting the urgent air quality problems in their district and impressing upon them that the public cared about this problem. As one person involved in the campaign at the time said, "So we just flooded their offices with letters and calls from citizens. We set up tables at the natural food stores in Dallas. We went to street fairs and worked their neighborhoods and got thousands of letters into those two representatives."[44] Thus, the evidence suggests it was not public support on its own that got renewable energy onto the agenda. Rather, advocates used the public as a tool, actively shaping and communicating the public's preferences and strategically targeting specific legislators.

A third proposed causal mechanism points to bureaucrats championing renewables. In this story, policy change occurs through learning, with technical bureaucrats watching via bureaucratic networks what policy choices nearby states make and these policies' ramifications. Modern policy problems are complex. Thus, bureaucrats are increasingly specialized and potentially able to dominate the policy agenda (Heclo 1978). In theory, bureaucrats are able to use ambiguities in laws, combined with their autonomy and discretion, to develop rules and institutions in line with their interests. Given the technical nature of electricity policy, we might expect that bureaucrats have political legitimacy and autonomy in this policy domain.

Examining US state energy policy, Barry Rabe (2004) argues that bureaucrats helped diffuse key environmental policies, including RPS policies, across states. As Rabe writes specifically on the Texas case, there was a state agency official "who is widely credited as having been a pivotal policy entrepreneur behind the RPS initiative" (Rabe, 2004, 56). It may be the case that bureaucrats have been important policy incubators, particularly in the early days of renewable energy. However, despite significant effort,[45] I did not uncover this key bureaucratic champion or other evidence for bureaucrats' central role in renewable policy at that time in Texas. As we will see in the next chapter, bureaucrats' influence have only diminished over time, as the issue has become more threatening to incumbent opponents.

Overall, I argue that organized combat between interest groups best explains this case. It is notable that environmental groups and consumer advocates did not just get a renewable energy policy in 1999. The bill also included significant air quality and energy efficiency provisions. These parts of the bill show the clear marks of a network of advocates, working across the states and funded by a savvy foundation to advance exactly these policy goals. Their success suggests

that environmental groups were effective lobbyists at that time—working both directly to lobby for specific bill provisions and indirectly through outside lobbying. In the first round of combat in Texas, the advocates prevailed over their opponents.

Advocates Win This Round: Successful Implementation and Policy Feedback in Texas's RPS policies

The spoils from victory in organized combat go to the party whose laws are implemented—not just passed. Conflict between advocates and opponents continues during implementation. In the case of Texas, the renewable energy laws enacted in 1999 faced little resistance during implementation. Potential renewable energy opponents continued to be preoccupied with implementing the larger and more complex deregulation policy. Texas's RPS law was also simple and straightforward in its design (Langniss & Wiser 2005). Both the RPS and the air quality provisions were market-based, making them resonant with the dominant views on regulation. For example, the renewable energy policy was structured with a performance incentive. Because the statutory target was given in capacity (megawatts), implementing the law required it to be translated into an energy value (megawatt hours). If renewables performed well and created more energy (megawatt hours), they would generate more renewable energy credits. There were also automatic compliance penalties established by the PUCT. After a successful implementation, the renewable energy credit market began functioning well.

The wind energy industry took off. Texas's excellent resources were located in sparsely populated areas with little local resistance, allowing wind projects to be built quickly and yield high profits. To give a sense of the scale, almost 1,000 MW, or roughly 750 wind turbines at that time, were installed in the first year alone.[46] By the end of 2001, Texas was ahead of schedule, with wind power going in faster than the targets required (Langniss & Wiser 2003). In part, this speedy growth occurred because the RPS policy was large—projects were able to benefit from economies of scale, leading to low costs of under 3 ¢/kWh on average (Langniss & Wiser 2003). In addition, projects were able to take advantage of the federal production tax credit, which guaranteed 1.5 ¢/kWh in 1990 dollars adjusted for inflation (Stokes & Breetz 2018). This policy reduced the implementation costs for Texas, since the federal government subsidized the state's early action on wind (Moeller 2004). By the middle of the first decade of the 2000s, the RPS was seen as a made-in-Texas success story, propelling the state

ahead of California to its current position as the largest wind energy producer in the country. Wind projects brought economic development to rural, Republican districts. Even Republican governor Rick Perry endorsed the technology, creating the Texas Energy Planning Council in 2004 to promote renewables. All indicators pointed to growing political support for clean energy.

The proverbial wind was in the sails of the advocates. After the initial targets were surpassed years ahead of schedule, they began organizing to expand the RPS and pass other complimentary policies to support clean energy growth. Troy Fraser, a prominent Republican state senator, championed the issue in 2005. Senator Fraser's interest in working on wind energy came from seeing the positive results of the first law in his backyard. Geographically, part of his district was in West Texas, an economically depressed area that includes the Panhandle and parts of Hill Country. After the first law, many large wind farms had been built there, and property values had risen. Fraser's hometown of Abilene, in Taylor County, began calling itself the "wind energy capital of the world," with some of the largest wind farms in the country. Parts of Fraser's district left behind their history of being poor cattle towns as wind spurred rural economic development. Politicians whose districts had benefited from the RPS policy had an interest in creating further development opportunities for new wind farms. Here we see clear policy feedback—politicians, like Senator Fraser, were seeing benefits from the policy in their district and therefore sought to expand the policy.[47]

In 2005, Senator Fraser introduced a bill (SB 533) that would expand the RPS policy and invest government funds in transmission infrastructure to support clean energy. Since the RPS target was quickly being exceeded, a new goal was necessary to continue to spur growth in wind. The bill proposed to increase the RPS target substantially, to 5,880 MW by 2015—around 5% of the grid. It also included a longer-term goal of 10,000 MW by 2025. These were solid, but not overly ambitious targets, suggesting that opponents were able to water down the bill to some extent, as they had done with the first target. And they were nowhere near what was necessary to address the growing climate crisis.

More significantly, the bill proposed government spending to build new transmission infrastructure in Texas. This investment would address the growing transmission constraints on the system from new wind capacity. When wind farms are built far away from cities—where the electricity is consumed—power lines are necessary to bring that energy to market. At the time, Texas's electricity market regulator, ERCOT, had a multiyear transmission planning process.[48] Wind developers complained that this long planning process was mismatched with the shorter timelines necessary to finance and build wind projects.[49] They advocates called this the "chicken-or-egg problem": without the transmission capacity, wind projects would not be able to sell their electricity for reasonable rates and without new wind projects, there was no demand for transmission

capacity. Thus, to spur more growth in wind energy in Texas, both new targets and an investment in infrastructure were necessary.

Like other technical reforms, this bill granted discretion to bureaucrats to implement the policy. Expanding an electricity grid requires significant modeling, planning, and cost estimation. This was not within politicians' expertise. Hence, the legislators punted the specifics to the PUCT. Still, the lawmakers set ground rules for the plan. The bill stipulated that new transmission would be built through competitive renewable energy zones (CREZ). The PUCT would be given the authority to create these zones based on areas with significant existing, planned, or potential wind energy resources. Next, it would develop a transmission plan that would allow for the power resources in these zones to be brought to market (Zarnikau 2011). As the bill's author, Senator Fraser, wrote to the PUCT, the goal was to expand transmission capacity in a cost-effective manner. The zones would be based on actual or planned projects "to protect ratepayers from having to pay for the construction of transmission in the face of renewable generators that fail to appear."[50] From his perspective, this approach would minimize costs by deferring to the regulator to implement a comprehensive transmission planning process. In practice, deferring to the regulator also shielded the legislature from criticism. The bill left the issue of how much money would be spent on transmission to the PUCT, providing the penny-pinching Texas politicians cover. It also punted conflict to the implementation phase, since the legislators did not have to argue over which districts would benefit from the investment.

This large and complex bill set the stage for another battle between advocate and opponent interest groups. But this time, the first law had left an important legacy: it had built a stronger coalition of advocates. Renewable energy advocates, including TREIA, had long envisioned transmission capacity investments to bring the distant wind resources to the cities. But their policy ideas were not viable without a larger industry with greater political influence in the capitol. After the first clean energy targets were implemented, installed wind energy in Texas grew 10-fold in a few short years, from 184 MW in 1999 to 1,992 MW in 2005.[51] With larger economic interests at the table, enacting the advocates' vision became possible. For example, Florida Power & Light (FPL)—one of the then largest renewable energy developers in the country—lobbied heavily for the infrastructure investment. They were interested in expanding transmission to fix a bottleneck in West Texas that affected one of their wind farms.[52] This large project of over 400 turbines was partly located in Senator Fraser's district.[53] Thus, we see an elite-level feedback: the initial RPS policy's successful implementation brought new interest groups into the legislative process. Using their ties to legislators, advocates pushed for policy expansion.

Once again, the fog of enactment worked in the advocates' favor. In this case, uncertainty about who the policy would benefit enabled electric utilities to support—rather than oppose—the bill. Generators such as Luminant and Reliant and more broadly the AECT became a key constituency supporting the transmission investment. Although these new lines would help wind developers, the argument was made that a transmission investment was technology-neutral: any kind of electricity development could make use of the grid. Since the transmission lines were then mere words on paper, various actors could project into the future, imagining the benefits to their companies from their idealized version of the infrastructure expansion. In practice, most of these future projections would never come to pass. But the key thing is that actors *believed* they would. Thus, uncertainty during enactment caused utilities—previously renewable energy opponents—to support the proposal.

This time, the clean energy target did not need to hide as a provision deep within a large and complex bill. There was enough support from advocates with influence at the Capitol that renewables were the focus. With both the increased RPS goal and the CREZ transmission plan, the proposal gained broad support. Many renewable energy advocates—including FPL, the Wind Coalition, EDF, and Public Citizen—testified in support. The clean energy industry had grown and now had greater influence in the legislature. Notably, TREIA testified in a neutral manner, despite the extremely far-reaching implications of the bill for the renewables industry, suggesting a poorly organized lobbying effort on their part. Even the utilities and their association, AECT, were in favor of the bill.

Still, the bill faced resistance from the politically influential large industrial energy consumers, which testified through the TCCE since the TAM did not yet exist. However, at that time, opposition from the fossil fuel industry was insufficient to derail the bill. Senator Fraser likely believed that economic development from wind energy would prove too valuable for his district to pass up. And although these groups were able to successfully delay the bill from passing in the regular session, it eventually passed in a special session.[54] After policy feedback, the advocates had won: Texas's renewable energy goal grew.

But the opponents did not hang up their hats and go home after losing at the legislature. Instead, they began to actively resist the law's implementation. Unlike the first clean energy target, there was greater controversy in implementing the second law. When the law went to the PUCT for rulemaking in early 2006, conflict increased over planning the transmission expansion. Many state legislators wrote to the commission with their views on how the zones should be identified, particularly if there was potential for their districts to benefit from renewable energy development.[55] There were large economic stakes for many districts depending on the specific transmission plan the PUCT adopted. Thus, both the advocates and opponents enlisted legislators to help make their case to the

regulator. Despite the political implications of such a large infrastructure investment, the PUCT was able to manage the process effectively, prioritizing places where wind development was likely.

Further underscoring the fog of enactment, the total cost for the transmission expansion ended up being much higher than politicians, regulators, and interest groups expected. While the legislature and the PUCT's initial cost estimates for the transmission expansion fell between $1 billion and $5 billion, the final costs totaled $7 billion (Fischlein et al. 2013).[56] Giving discretion to the bureaucracy to implement the law left significant uncertainty around spending. As one opponent representing the oil and gas industry put it, "Had consumer groups understood how big that [transmission spending] was ultimately going to be, they wouldn't have agreed to it. The truth is at the time we thought it was not going to be as big of an expansion as it ended up being."[57] These opponents had tried to put a cost limitation in the statute; but they were not successful in convincing the legislators it was necessary, and the provision was not included in the bill. As a result, the PUCT was able to spend significantly more resources on transmission than anticipated. This investment will continue to fuel Texas's growth in wind for the foreseeable future. By contrast, the new renewable energy targets once again proved modest. The state met its new goal 7 years early, in 2008 rather than 2015. Thus, while policy feedback occurred, opponents' efforts to water down the law were clear. As the next chapter shows in detail, fossil fuel corporations and other heavy industries would not tolerate a truly ambitious clean energy law in Texas that would effectively decarbonize the system on the timeline necessary for climate stability.

Conclusion

Why was Texas an unexpected early leader in renewable energy policy? A group of advocates, working in a network with other interest groups across state lines, was able to push two major clean energy laws onto the agenda and ensure that they passed. Their efforts were buoyed by the fog of enactment—a large and complex bill was winding its way through the legislature, and opponents' attention was divided. It was also unclear to potential opponents just how big clean energy could get in Texas—and how fast. In contrast, because the advocates had been working on these policy ideas and political strategies through a foundation-funded network for several years, they were better poised to see through the fog. These environmental NGOs used both direct and indirect strategies to ensure that the law was passed with a number of important environmental provisions intact, including the clean energy target. Working directly with legislators, one group pushed the negotiations from the inside. A second group focused on

using public opinion and mobilization to targeted specific legislators, pushing the policy indirectly. These tactics worked, and the electricity restructuring law passed with an important clean energy goal. After enactment, implementation went smoothly in Texas, with initial policy goals met years ahead of schedule.

After the first bill passed, it was easier for the advocates to pass the second law. Policy feedback had kicked in: there were new interest groups ready to make the case to legislators. In their own backyards, politicians had seen the benefits of this new technology for their districts. It brought economic investment, jobs and tax revenue to rural, conservative districts. As a result, Republicans championed the policy's expansion. In line with policy feedback theory, advocates bolstered by the first law gained resources and political influence. They used their growing power to sway politicians to expand the law. Consequently, and despite opposition from fossil fuel companies and industrial energy consumers, in 2005 Texas raised its clean energy goals. It also committed billions for supportive infrastructure, leaving the exact implementation details up to the regulator. Despite delegating responsibility to interpret the law, providing a second opportunity for opponents to undermine the policy, advocates were able to ensure its successful implementation. In part, they worked to mobilize legislators to contact the regulator and explain the legislative intent, undermining opponents' implementation resistance efforts. Overall, in the first decade, advocates prevailed in the battle over Texas's clean energy laws. Policy feedback and lock-in were starting to unfold in the Lone Star State. Given feedback theory, we might expect this upward policy trajectory to continue.

But as the next chapter will show, 2005 was the high-water mark for renewable energy policy in Texas. Since this time, Texas's policy feedback has faltered. When the first two laws were passed, there was considerable uncertainty on the part of clean energy opponents. It was not clear how these new technologies would interact with a deregulated market, federal laws, or technological innovation. Once the large costs to their bottom lines became clearer, opponents mounted a considerable resistance. And they were far more successful in blocking clean energy progress in Texas in the next decade.